As filed with the Securities and Exchange Commission on October 24, 2019

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 20-F

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended June 30, 2019
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☐ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Date of event requiring this shell company report
For the transition period from___ to___

Commission file number: 001 — 31545

HARMONY GOLD MINING COMPANY LIMITED

(Exact name of registrant as specified in its charter)
REPUBLIC OF SOUTH AFRICA
(Jurisdiction of incorporation or organization)
RANDFONTEIN OFFICE PARK, CNR WARD AVENUE AND MAIN REEF ROAD,
RANDFONTEIN, SOUTH AFRICA, 1759
(Address of principal executive offices)
Riana Bisschoff, Group Company Secretary
Tel: +27 11 411 6020, riana.bisschoff@harmony.co.za, fax: +27 (0) 11 696 9734,
Randfontein Office Park, CNR Ward Avenue and Main Reef Road, Randfontein, South Africa, 1759
(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)
Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Ordinary shares, with no par value per share*	n/a*	New York Stock Exchange*
American Depositary Shares (as evidenced by American Depositary Receipts), each representing one ordinary share	HMY	New York Stock Exchange

* Not for trading, but only in connection with the registration of American Depositary Shares, pursuant to the requirements of the Securities and Exchange Commission.

Securities registered or to be registered pursuant to Section 12(g) of the Act:
None
Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:
None
The number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the last full fiscal year covered by this Annual Report was 539,841,195 ordinary shares, with no par value per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☒ NO ☐

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. YES ☒ NO ☐

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☒ NO ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES ☒ NO ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "accelerated filer and large accelerated filer" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐	Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

US GAAP ☐	International Financial Reporting Standards as issued by the International Accounting Standards Board ☒	Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow:

Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

YES ☐ NO ☒

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court.

YES ☐ NO ☐

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This document comprises the annual report on Form 20-F for the year ended June 30, 2019 ("**Harmony 2019 Form 20-F**") of Harmony Gold Mining Company Limited ("**Harmony**" or the "**Company**"). Certain of the information in the Harmony Integrated Annual Report 2019 included in Exhibit 15.1 ("**Integrated Annual Report for the 20-F 2019**") is incorporated by reference into the Harmony 2019 Form 20-F, as specified elsewhere in this report, in accordance with Rule 12b-23(a) of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"). With the exception of the items so specified, the Integrated Annual Report for the 20-F 2019 is not deemed to be filed as part of the Harmony 2019 Form 20-F.

Only (i) the information included in the Harmony 2019 Form 20-F, (ii) the information in the Integrated Annual Report for the 20-F 2019 that is expressly incorporated by reference in the Harmony 2019 Form 20-F and (iii) the exhibits to the Harmony 2019 Form 20-F that are required to be filed pursuant to the Form 20-F (the "**Exhibits**"), shall be deemed to be filed with the Securities and Exchange Commission ("**SEC**") for any purpose. Any information in the Integrated Annual Report for the 20-F 2019 which is not referenced in the Harmony 2019 Form 20-F or filed as an Exhibit, shall not be deemed to be so incorporated by reference.

Financial and other material information regarding Harmony is routinely posted on and accessible at the Harmony website, *www.harmony.co.za*. No material referred to in this annual report as being available on our website is incorporated by reference into, or forms any part of, this annual report. References herein to our website shall not be deemed to cause such incorporation.

USE OF TERMS AND CONVENTIONS IN THIS ANNUAL REPORT

Harmony Gold Mining Company Limited is a corporation organized under the laws of the Republic of South Africa. As used in this Harmony 2019 Form 20-F, unless the context otherwise requires, the terms "**Harmony**" and "**Company**" refer to Harmony Gold Mining Company Limited; the term "**South Africa**" refers to the Republic of South Africa; the terms "**we**", "**us**" and "**our**" refer to Harmony and, as applicable, its direct and indirect subsidiaries as a "**Group**".

In this annual report, references to "**R**", "**Rand**" and "**c**", "**cents**" are to the South African Rand, the lawful currency of South Africa, "**A$**" and "Australian dollars" refers to Australian dollars, "**K**" or "**Kina**" refers to Papua New Guinean Kina and references to "**$**", "**US$**" and "**US dollars**" are to United States dollars.

This annual report contains information concerning our gold reserves. While this annual report has been prepared in accordance with the regulations contained in the SEC's Industry Guide 7, it is based on assumptions which may prove to be incorrect. See Item 3: *"Key Information - Risk Factors - Estimations of Harmony's reserves are based on a number of assumptions, including mining and recovery factors, future cash costs of production, exchange rates, and relevant commodity prices. As a result, metals produced in future may differ from current estimates."*

This annual report contains descriptions of gold mining and the gold mining industry, including descriptions of geological formations and mining processes. We have explained some of these terms in the Glossary of Mining Terms included in this annual report. This glossary may assist you in understanding these terms.

All references to websites in this annual report are intended to be inactive textual reference for information only and information contained in or accessible through any such website does not form a part of this annual report.

PRESENTATION OF FINANCIAL INFORMATION

We are a South African company and the majority of our operations are located in our home country. Accordingly, our books of account are maintained in South African Rand and our annual financial statements are prepared in accordance with International Financial Reporting Standards ("**IFRS**") as issued by the International Accounting Standards Board ("**IASB**"). This annual report includes our consolidated financial statements prepared in accordance with IFRS presented in the functional currency of the Company, being South African Rand. All financial information, except as otherwise noted, is stated in accordance with IFRS.

Effective July 1, 2018, our presentation currency changed from the US Dollar to the South African Rand, which is the functional currency for the majority of the group's operations. The functional currency represents the currency of the primary economic environment in which underlying businesses operate. We believe that utilizing a presentation currency that is consistent with the functional currency for the majority of the group's operations, in which approximately 85% - 90% of our revenue and costs are generated, provides more relevant financial information. The presentation of the results of our operations in US dollar may be difficult to understand as a result of the volatile exchange rate differential between the two currencies, which can distort the results and financial position when comparing the current year to prior years. It should be noted that the functional currencies of the group's underlying businesses remain unchanged and that foreign exchange exposures will therefore be unaffected by the change.

In this annual report, we also present "cash costs", "cash costs per ounce", "cash costs per kilogram" "all-in sustaining costs", "all-in sustaining costs per ounce" and "all-in sustaining costs per kilogram", which are non-GAAP measures. An investor should not consider these items in isolation or as alternatives to production costs, cost of sales or any other measure of financial performance presented in accordance with IFRS. The calculation of cash costs, cash costs per ounce/kilogram, all-in sustaining costs and all-in sustaining costs per ounce/kilogram may vary significantly among gold mining companies and, by themselves, do not necessarily provide a basis for comparison with other gold mining companies. For further information, see Item 5: *"Operating and Financial Review and Prospects - Costs - Reconciliation of Non-GAAP Measures"*. We have included the US dollar equivalent amounts of certain information and transactions in Rand, Kina and A$. Unless otherwise stated, we have translated assets and liabilities at the spot rate for the day, while the US$ equivalents of cash costs and all-in sustaining costs have been translated at the average rate for the year (R14.18 per US$1.00 for fiscal 2019, R12.85 per US$1.00 for fiscal 2018 and R13.60 per US$1.00 for fiscal 2017). By including these US dollar equivalents in this annual report, we are not representing that the Rand, Kina and A$ amounts actually represent the US dollar amounts, as the case may be, or that these amounts could be converted at the rates indicated.

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING STATEMENTS

This annual report contains forward-looking statements within the meaning of the safe harbor provided by Section 21E of the Exchange Act and Section 27A of the Securities Act of 1933, as amended (the "**Securities Act**"), with respect to our financial condition, results of operations, business strategies, operating efficiencies, competitive positions, growth opportunities for existing services, plans and objectives of management, markets for stock and other matters.

These forward-looking statements, including, among others, those relating to our future business prospects, revenues, and the potential benefit of acquisitions (including statements regarding growth and cost savings) wherever they may occur in this annual report and the exhibits to this annual report, are necessarily estimates reflecting the best judgment of our senior management and involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. As a consequence, these forward-looking statements should be considered in light of various important factors, including those set forth in this annual report. Important factors that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include, without limitation:

- overall economic and business conditions in South Africa, Papua New Guinea, Australia and elsewhere;
- estimates of future earnings, and the sensitivity of earnings to gold and other metals prices;
- estimates of future gold and other metals production and sales;
- estimates of future cash costs;
- estimates of future cash flows, and the sensitivity of cash flows to gold and other metals prices;
- estimates of provision for silicosis settlement;
- estimates of future tax liabilities under the Carbon Tax Act (as defined below);
- statements regarding future debt repayments;
- estimates of future capital expenditures;
- the success of our business strategy, exploration and development activities and other initiatives;
- future financial position, plans, strategies, objectives, capital expenditures, projected costs and anticipated cost savings and financing plans;
- estimates of reserves statements regarding future exploration results and the replacement of reserves;
- the ability to achieve anticipated efficiencies and other cost savings in connection with past and future acquisitions, as well as at existing operations;
- fluctuations in the market price of gold;
- the occurrence of hazards associated with underground and surface gold mining;
- the occurrence of labor disruptions related to industrial action or health and safety incidents;
- power cost increases as well as power stoppages, fluctuations and usage constraints;
- supply chain shortages and increases in the prices of production imports and the availability, terms and deployment of capital;
- our ability to hire and retain senior management, sufficiently technically-skilled employees, as well as our ability to achieve sufficient representation of historically disadvantaged persons in management positions;
- our ability to comply with requirements that we operate in a sustainable manner and provide benefits to affected communities;
- potential liabilities related to occupational health diseases;
- changes in government regulation and the political environment, particularly tax and royalties, mining rights, health, safety, environmental regulation and business ownership including any interpretation thereof; court decisions affecting the mining industry, including, without limitation, regarding the interpretation of mining rights;
- our ability to protect our information technology and communication systems and the personal data we retain;
- risks related to the failure of internal controls;
- the outcome of pending or future litigation or regulatory proceedings;
- fluctuations in exchange rates and currency devaluations and other macroeconomic monetary policies;
- the adequacy of the Group’s insurance coverage;
- any further downgrade of South Africa's credit rating; and
- socio-economic or political instability in South Africa, Papua New Guinea and other countries in which we operate.

The foregoing factors and others described under “Risk Factors” should not be construed as exhaustive.

We undertake no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of this annual report or to reflect the occurrence of unanticipated events, except as required by law. All subsequent written or oral forward-looking statements attributable to Harmony or any person acting on its behalf are qualified by the cautionary statements herein.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. SELECTED FINANCIAL DATA

The selected consolidated financial data below should be read in conjunction with, and are qualified in their entirety by reference to, our consolidated financial statements, and the notes thereto, set forth beginning on page F-1, and with Item 3: "Key Information - Risk Factors" and Item 5: "Operating and Financial Review and Prospects". Historical results are not necessarily indicative of results to be expected for any future period.

Selected Historical Consolidated Financial Data

We are a South African company and the majority of our operations are located in our home country. Accordingly, our books of account are maintained in South African Rand and our annual financial statements are prepared in accordance with IFRS. This annual report includes our consolidated financial statements prepared in accordance with IFRS, presented in the functional currency of the Company, being South African Rand. The selected historical consolidated income statement and balance sheet data for the last five fiscal years are, unless otherwise noted, stated in accordance with IFRS, and have been extracted from the more detailed information and financial statements prepared in accordance with IFRS. The financial data as at June 30, 2019 and 2018 and for each of the years in the three-year period ended June 30, 2019 should be read in conjunction with, and is qualified in its entirety by reference to our audited consolidated financial statements set forth beginning on page F-1. Financial data as at June 30, 2017, 2016 and 2015 and for the years ended June 30, 2016 and 2015 have been derived from our consolidated financial statements, which are not included in this document.

The acquisition of Moab Khotsong was effective March 1, 2018 (see Item 5: *"Operating and Financial Review and Prospects - B Liquidity and Capital Resources - Investing"*). The results of the operations have been consolidated in the financial statements for fiscal 2018 from the effective date. Subsequent to the provisional preparation of the purchase price allocation, the effective date tax values were finalized, which affected the mineral right value, goodwill and deferred tax. The 2018 comparative amounts were re-presented for this change. See note 2 "*Accounting Policies*" and note 12 "*Acquisitions and Business Combinations*" in the consolidated financial statements in Item 18. The measurement period for the purchase price allocation closed during fiscal 2019.

On July 1, 2018, IFRS 9 *Financial Instruments* and IFRS 15 *Revenue from Contracts with Customers* become effective. The adoption did not have a material impact on the consolidated financial statements. See note 2 "*Accounting Policies*" of the consolidated financial statements in Item 18 for further details.

In fiscal 2019, we voluntarily changed the accounting policy regarding by-products credits, which resulted in a change of the allocation from cost of sales to revenue. As a result we have re-presented our financial statements for the comparative periods. See note 2 "*Accounting Policies*" in our consolidated financial statements in Item 18.

	Fiscal year ended June 30,				
	2019	2018	2017	2016	2015
	(Rand in millions, except per share amounts, cash costs per kilogram and ounce and all-in sustaining costs per kilogram and ounce)				
Income Statement Data					
Revenue	26,912	20,452	19,494	18,667	15,643
(Impairment)/reversal of impairment of assets	(3,898)	(5,336)	(1,718)	43	(3,471)
Operating profit/(loss)	(2,538)	(4,660)	(944)	1,592	(5,193)
Gain on bargain purchase	—	—	848	—	—
Profit/(loss) from associates	59	38	(22)	7	(25)
Profit/(loss) before taxation	(2,746)	(4,707)	(148)	1,581	(5,240)
Taxation	139	234	510	(632)	704
Net profit/(loss)	(2,607)	(4,473)	362	949	(4,536)
Basic earnings/(loss) per share (SA cents)	(498)	(1,003)	82	218	(1,044)
Diluted earnings/(loss) per share (SA cents)	(500)	(1,004)	79	213	(1,044)
Weighted average number of shares used in the computation of basic earnings/(loss) per share	523,808,934	445,896,346	438,443,540	435,738,577	434,423,747
Weighted average number of shares used in the computation of diluted earnings/(loss) per share	533,345,964	465,319,405	459,220,318	446,398,380	438,091,109
Dividends per share (SA cents)[1]	—	35	100	—	—
Other Financial Data					
Total cash costs per kilogram of gold (R/kg)[2]	439,722	421,260	436,917	392,026	369,203
Total cash costs per ounce of gold ($/oz)[2]	965	1,018	1,000	841	1,003
All-in sustaining costs per kilogram of gold (R/kg)[2]	550,005	508,970	516,687	467,611	453,244
All-in sustaining costs per ounce of gold ($/oz)[2]	1,207	1,231	1,182	1,003	1,232
Balance Sheet Data					
Assets					
Property, plant and equipment	27,749	30,969	30,044	29,919	29,548
Total assets	36,736	39,521	38,883	37,030	36,137
Net assets	22,614	25,382	29,291	28,179	26,753
Equity and liabilities					
Share capital	29,551	29,340	28,336	28,336	28,324
Total equity	22,614	25,382	29,291	28,179	26,753
Borrowings (current and non-current)	5,915	5,614	2,133	2,339	3,399
Other liabilities	8,207	8,525	7,459	6,512	5,985
Total equity and liabilities	36,736	39,521	38,883	37,030	36,137

1 Dividends per share relates to the dividends recorded and paid during the fiscal year.

2 Cash costs per ounce and per kilogram and all-in sustaining costs per ounce and per kilogram are non-GAAP measures. Cash costs per ounce/kilogram and all-in sustaining cost per ounce/kilogram have been calculated on a consistent basis for all periods presented. Changes in cash costs per ounce/kilogram and all-in sustaining costs per ounce/kilogram are affected by operational performance, as well as changes in the currency exchange rate between the Rand and the US dollar for the US$/ounce measures. Because cash cost per ounce/kilogram and all-in sustaining costs per ounce/kilogram are non-GAAP measures, these measures should therefore not be considered by investors in isolation or as an alternative to production costs, cost of sales, or any other measure of financial performance calculated in accordance with IFRS. The calculation of cash costs, cash costs per ounce and per kilogram, all-in sustaining costs and all-in sustaining costs per ounce and per kilogram may vary from company to company and may not be comparable to other similarly titled measures of other companies. For further information, see Item 5:"*Operating and Financial Review and Prospects-Costs-Reconciliation of Non-GAAP measures*".

B. CAPITALIZATION AND INDEBTEDNESS

Not applicable.

C. REASONS FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

D. RISK FACTORS

In addition to the other information included in this annual report and the exhibits, you should also carefully consider the following factors related to our ordinary shares and ADSs. There may be additional risks that we do not currently know of or that we currently deem immaterial based on information currently available to us. Although Harmony has a formal risk policy framework in place, the maintenance and development of which is undertaken on an ongoing basis so as to help management address systematic categories of risk associated with its business operations, any of these risks could have a material adverse effect on our business, financial condition or results of operations, leading to a decline in the trading price of our ordinary shares or our ADSs. The risks described below may, in retrospect, turn out to be incomplete and therefore may not be the only risks to which we are exposed. Additional risks and uncertainties not presently known to us or that we now believe are immaterial (and have therefore not been included), could also adversely affect our business, results of operations or financial condition. The order of presentation of the risk factors below does not indicate the likelihood of their occurrence or the magnitude or the significance of the individual risks.

Risks Relating to Our Business and the Gold Mining Industry

The profitability of our operations, and cash flows generated by those operations, are affected by changes in the price of gold. A fall in the gold price below our cash cost of production and capital expenditure required to sustain production for any sustained period may lead to losses and require Harmony to curtail or suspend certain operations

Substantially all of Harmony's revenues come from the sale of gold. Historically, the market price for gold has fluctuated widely and been affected by numerous factors, over which Harmony has no control, including:

- demand for gold for industrial uses, jewelry and investment;
- international or regional political and economic events and trends;
- strength or weakness of the US dollar (the currency in which gold prices generally are quoted) and of other currencies;
- monetary policies announced or implemented by central banks, including the US Federal Reserve;
- financial market expectations on the rate of inflation;
- changes in the supply of gold from production, divestment, scrap and hedging;
- interest rates;
- speculative activities;
- gold hedging or de-hedging by gold producers;
- actual or expected purchases and sales of gold bullion held by central banks or other large gold bullion holders or dealers; and
- production and cost levels for gold in major gold-producing nations, such as South Africa, China, the United States and Australia.

In addition, current demand and supply affects the price of gold, but not necessarily in the same manner as current demand and supply affect the prices of other commodities. Historically, gold has retained its value in relative terms against basic goods in times of inflation and monetary crisis. As a result, central banks, financial institutions and individuals hold large amounts of gold as a store of value and production in any given year constitutes a very small portion of the total potential supply of gold. However, as gold has historically been used as a hedge against unstable or lower economic performance, improved economic performance may have a negative impact on the price for gold. Since the potential supply of gold is large relative to mine production in any given year, normal variations in current production will not necessarily have a significant effect on the supply of gold or its price. Uncertainty on global economic conditions has impacted the price of gold significantly since fiscal 2013 and continued to do so in fiscal 2019, and is still relevant as is evidenced by the strategic risk profile of Harmony.

The volatility of gold prices is illustrated in the table, which shows the annual high, low and average of the afternoon London bullion market fixing price of gold in US dollars for each of the past ten years:

Annual gold price: 2009 - 2019

	Price per ounce (US$)		
Calendar year	High	Low	Average
2009	1,213	810	972
2010	1,421	1,058	1,225
2011	1,895	1,319	1,572
2012	1,792	1,540	1,669
2013	1,694	1,192	1,411
2014	1,385	1,142	1,266
2015	1,296	1,049	1,160
2016	1,366	1,077	1,251
2017	1,346	1,151	1,253
2018	1,355	1,178	1,268
2019	1,546	1,270	1,372

On October 17, 2019, the afternoon fixing price of gold on the London bullion market was US$1,492/oz.

While the price volatility is difficult to predict, if gold prices should fall below Harmony's cash cost of production and capital expenditure required to sustain production and remain at these levels for any sustained period, Harmony may record losses and be forced to curtail or suspend some or all of its operations, which could materially adversely affect Harmony's business, operating results and financial condition.

In addition, Harmony would also have to assess the economic impact of low gold prices on its ability to recover any losses that may be incurred during that period and on its ability to maintain adequate reserves. The use of lower gold prices in reserve calculations and life of mine plans could also result in material impairments of Harmony's investment in gold mining properties or a reduction in its reserve estimates and corresponding restatements of its reserves and increased amortization, reclamation and closure charges.

Foreign exchange fluctuations could have a material adverse effect on Harmony's operational results and financial condition

Gold is priced throughout the world in US dollars and, as a result, Harmony's revenue is realized in US dollars, but most of our operating costs are incurred in Rand and other non-US currencies, including the Australian dollar and Kina. From time to time, Harmony may implement currency hedges intended to reduce exposure to changes in the foreign currency exchange, which it started doing in fiscal 2016 and will continue as long as it is strategically viable. Such hedging strategies may not however be successful, and any of Harmony's unhedged exchange payments will continue to be subject to market fluctuations. Any significant and sustained appreciation of the Rand and other non-US currencies against the dollar will materially reduce Harmony's Rand revenues and overall net income, which could materially adversely affect Harmony's operating results and financial condition.

Harmony's inability to maintain an effective system of internal control over financial reporting may have an adverse effect on investors' confidence in the reliability of its financial statements

Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the company's financial statements for external purposes in accordance with IFRS as issued by the IASB. Disclosure controls and procedures are designed to ensure that information required to be disclosed by a company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. Harmony has invested in resources to facilitate the documentation and assessment of its system of disclosure controls and its internal control over financial reporting. However, a control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance with respect to the reliability of financial reporting and financial statement preparation. If Harmony were unable to maintain an effective system of internal control over financial reporting, investors may lose confidence in the reliability of its financial statements and this may have an adverse impact on investors' abilities to make decisions about their investment in Harmony. See Item 15: "*Controls and Procedures*".

Harmony is exposed to the impact of any significant decreases in the commodity prices on its production. This is mitigated by commodity derivatives and hedging arrangements, but as Harmony has limitations for the volume of forward sales, commodity derivatives or hedging arrangements it may enter into for its future production, it is exposed to the impact of decreases in the commodity prices on the remainder of its unhedged production

As a rule, Harmony sells its gold and silver at the prevailing market price. In fiscal 2017, however, Harmony started a commodity hedging program. These contracts manage variability of cash flows for approximately 20% of the Group's total production over a two-year period for gold and 50% for silver. These limits can be amended from time to time. Hedging instruments that protect against the market price volatility of gold and silver may prevent us from realizing the full benefit from subsequent decreases in market prices with respect to gold and silver, however, which could cause us to record a mark-to-market loss, thus decreasing our profits. See Item 11: *"Quantitative and Qualitative disclosure about market risk"*.

Harmony’s remaining unhedged future production may realize the benefit of any short-term increase in the commodity prices, but is not protected against decreases; if the gold or silver price should decrease significantly, Harmony’s revenues may be materially adversely affected, which could materially adversely affect Harmony’s operating results and financial condition.

Global economic conditions could adversely affect the profitability of Harmony’s operations

Harmony’s operations and performance depend on global economic conditions. Global economic conditions remain fragile with significant uncertainty regarding recovery prospects, level of recovery and long-term economic growth effects. A global economic downturn may have follow-on effects on our business. These could include:

- key suppliers or contractors becoming insolvent, resulting in a break-down in the supply chain;
- a reduction in the availability of credit which may make it more difficult for Harmony to obtain financing for its operations and capital expenditures or make that financing more costly;
- exposure to the liquidity and insolvency risks of Harmony’s lenders and customers; or
- the availability of credit being reduced-this may make it more difficult for Harmony to obtain financing for its operations and capital expenditure or make financing more expensive.

Coupled with the volatility of commodity prices as well as the rising trend of input costs, such factors could result in initiatives relating to strategic alignment, portfolio review, restructuring and cost-cutting, temporary or permanent shutdowns and divestments. Further, sudden changes in a life-of-mine plan or the accelerated closure of a mine may result in the recognition of impairments and give rise to the recognition of liabilities that are not anticipated.

In addition to the potentially adverse impact on the profitability of Harmony’s operations, any uncertainty on global economic conditions may also increase volatility or negatively impact the market value of Harmony’s securities. Any of these events could materially adversely affect Harmony’s business, operating results and financial condition.

A further downgrade of South Africa’s credit rating may have an adverse effect on Harmony’s ability to secure financing

The slowing economy, rising sovereign debt, escalating labor disputes and the structural challenges facing the mining industry and other sectors have resulted in the downgrading of South Africa’s sovereign credit ratings. At the beginning of fiscal 2018, two of the three international ratings agencies, Standard & Poor’s and Fitch Ratings, rated South Africa’s long-term sovereign credit rating as non-investment grade at BB+. In November 2017, Standard & Poor's further downgraded South Africa's sovereign rating to BB with a stable outlook, due to among other things, declining consumption on a per capita basis, economic growth performance that is among the weakest of emerging market sovereigns and income inequality. In November 2017, Fitch Ratings affirmed South Africa’s sovereign credit rating of BB+ with a negative outlook. In March 2018, Moody's affirmed its Baa3 sovereign credit rating for South Africa and upgraded its outlook to stable. In May 2018, Standard & Poor’s affirmed its BB sovereign credit rating of South Africa with a stable outlook, however post year end in July 2019, the outlook was downgraded again to negative. Further downgrading of South Africa’s credit ratings by any of these agencies may adversely affect the South African mining industry and Harmony’s business, operating results and financial condition by making it more difficult to obtain external financing or could result in any such financing being available only at greater cost or on more restrictive terms than might otherwise be available.

Estimations of Harmony’s reserves are based on a number of assumptions, including mining and recovery factors, future cash costs of production, exchange rates, and the relevant commodity prices. As a result, metals produced in future may differ from current estimates

The mineral reserve estimates in this annual report are estimates of the mill-delivered quantity and grade of metals in Harmony’s deposits and stockpiles. They represent the amount of metals that Harmony believes can be mined, processed and sold at prices sufficient to recover its estimated future cash costs of production, remaining investment and anticipated additional capital expenditures. Harmony’s mineral reserves are estimated based on a number of factors, which have been stated in accordance with the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (“**SAMREC Code**”) and the SEC's Industry Guide 7. Calculations of Harmony’s mineral reserves are based on estimates of:

- future cash costs;
- future commodity prices;
- future currency exchange rates; and
- metallurgical and mining recovery rates.

These factors, which significantly impact mineral reserve estimates, are beyond Harmony’s control. As a result, reserve estimates in this annual report should not be interpreted as assurances of the economic life of Harmony’s gold and other precious metal deposits or the future profitability of operations.

Since these mineral reserves are estimates based on assumptions related to factors detailed above, should there be changes to any of these assumptions, we may in future need to revise these estimates. In particular, if Harmony’s cash operating and production costs increase or the gold price decreases, recovering a portion of Harmony’s mineral reserves may become uneconomical. This will lead, in turn, to a reduction in estimated reserves. Any reduction in our mineral reserves estimate could materially adversely affect Harmony’s business, operating results and financial condition.

Harmony's operations have limited proved and probable reserves. Exploration for additional resources and reserves is speculative in nature, may be unsuccessful and involves many risks

Harmony's operations have limited proved and probable reserves, and exploration and discovery of new resources and reserves are necessary to maintain current gold production levels at these operations. Exploration for gold and other precious metals is speculative in nature, may be unsuccessful and involves risks including those related to:

- locating orebodies;
- geological nature of the orebodies;
- identifying the metallurgical properties of orebodies;
- estimating the economic feasibility of mining orebodies;
- developing appropriate metallurgical processes;
- obtaining necessary governmental permits; and
- constructing mining and processing facilities at any site chosen for mining.

Harmony's exploration efforts might not result in the discovery of mineralization, and any mineralization discovered might not result in an increase in resources or proved and probable reserves. To access additional resources and reserves, Harmony will need to complete development projects successfully, including extensions to existing mines and, possibly, establishing new mines. Development projects would also be required to access any new mineralization discovered by exploration activities around the world. Harmony typically uses feasibility studies to determine whether to undertake significant development projects. These studies often require substantial expenditure. Feasibility studies include estimates of expected or anticipated economic returns, which are based on assumptions about:

- future gold and other metal prices;
- anticipated tonnage, grades and metallurgical characteristics of ore to be mined and processed;
- anticipated recovery rates of gold and other metals from the ore; and
- anticipated total costs of the project, including capital expenditure and cash costs.

All projects are subject to project study risk. There is no certainty or guarantee that a feasibility study, if undertaken, will be successfully concluded or that the project the subject of the study will satisfy Harmony's economic, technical, risk and other criteria in order to progress that project to development.

A failure in our ability to discover new resources and reserves, enhance existing resources and reserves or develop new operations in sufficient quantities to maintain or grow the current level of our resources and reserves could negatively affect our results, financial condition and prospects.

The risk of unforeseen difficulties, delays or costs in implementing Harmony's business strategy and projects may lead to Harmony not delivering the anticipated benefits of our strategy and projects. In addition, actual cash costs, capital expenditure, production and economic returns may differ significantly from those anticipated by feasibility studies for new development projects

The successful implementation of Harmony's business strategy and projects depends upon many factors, including those outside our control. For example, the successful management of costs will depend on prevailing market prices for input costs. The ability to grow our business will depend on the successful implementation of our existing and proposed projects and continued exploration success, as well as on the availability of attractive acquisition opportunities, all of which are subject to the relevant mining and company specific risks as outlined in these risk factors.

It can take a number of years from the initial feasibility study until development of a project is completed and, during that time, the economic feasibility of production may change. In addition, there are a number of inherent uncertainties in developing and constructing an extension to an existing mine or a new mine, including:

- availability and timing of necessary environmental and governmental permits;
- timing and cost of constructing mining and processing facilities, which can be considerable;
- availability and cost of skilled labor, power, water, fuel, mining equipment and other materials;
- accessibility of transportation and other infrastructure, particularly in remote locations;
- availability and cost of smelting and refining arrangements;
- availability of funds to finance construction and development activities; and
- spot and expected future commodity prices of metals including gold, silver, copper, uranium and molybdenum.

All of these factors, and others, could result in our actual cash costs, capital expenditures, production and economic returns differing materially from those anticipated by feasibility studies.

Competition with other mining companies and individuals for specialized equipment, components and supplies necessary for exploration and development, for mining claims and leases on exploration properties and for the acquisition of mining assets also impact existing operations and potential new developments. Competitors may have greater financial resources, operational experience and technical capabilities - all of which could negatively affect the anticipated costs, which in turn could have a material adverse effect on our operating results and financial condition.

Harmony currently maintains a range of focused exploration programs, concentrating mainly on a number of prospective known gold and copper mineralized areas in the Independent State of Papua New Guinea (“**PNG**”) and the Kalgold open pit operation in South Africa. In order to maintain or expand our operations and reserve base, Harmony has sought, and may continue to seek to enter into joint ventures or to make acquisitions of selected precious metal producing companies or assets. For example, in 2018 Harmony acquired AngloGold Ashanti Limited’s Moab Khotsong and Great Noligwa mines together with other assets and related infrastructure (the "**Moab Acquisition**"). See below under "*We may experience problems in identifying, financing and managing new acquisitions or other business combination transactions and integrating them with our existing operations. We may not have full management control over future joint venture partners*". However, there is no assurance that any future development projects will extend the life of our existing mining operations or result in any new commercial mining operations. Unforeseen difficulties, delays or costs may adversely affect the successful implementation of our business strategy and projects, and such strategy and projects may not result in the anticipated benefits, which could have a material adverse effect on our results of operations, financial condition and prospects.

Risks associated with pumping water inflows from closed mines adjacent to our operations could adversely affect Harmony’s operational results

Certain of our mining operations are adjacent to the mining operations of other companies. A mine closure can affect continued operations at an adjacent mine if appropriate preventative steps are not taken. In particular, this could include the ingress of underground water when pumping operations at the closed mine are suspended. This can result in damage to property, operational disruptions and additional pumping costs, which could adversely affect any one of our adjacent mining operations and, in turn could adversely affect our business, operating results and financial condition.

With the Moab Acquisition, Harmony inherited a two-thirds interest in the Margaret Water Company for all pumping and water related infrastructure at its Margaret Water Shaft. The shaft operates for the purpose of de-watering the Klerksdorp, Orkney, Stilfontein, Hartbeesfontein (**"KOSH"**) basin groundwater in order for Moab Khotsong operations and the mine operated by Kopanang Gold Mining Company Proprietary Limited (the mining company holding the remaining one–third interest in Margaret Water Company) (the only other mining company continuing operating) to remain dry and to prevent flooding of operational areas. Therefore it remains imperative for the shaft to continue pumping water. Flooding in the future resulting from a failure in pumping and water related infrastructure could pose an unpredicted "force majeure" type event, which could result in financial liability for us, and could have an adverse impact on our results of operations and financial condition.

Infrastructure constraints and aging infrastructure could adversely affect Harmony’s operations

Mining, processing, development and exploration activities depend on adequate infrastructure. Reliable rail, ports, roads, bridges, power sources, power transmission facilities and water supply are critical to the Company’s business operations and affect capital and operating costs. The infrastructure and services are often provided by third parties whose operational activities are outside the control of the Company.

Interference to the maintenance or provision of infrastructure, including by extreme weather conditions, sabotage or social unrest, could impede our ability to deliver products on time and adversely affect our business, results of operations and financial condition.

Once a shaft or a processing plant has reached the end of its intended lifespan, higher than normal maintenance and care is required. Maintaining this infrastructure requires skilled human resources, capital allocation, management and planned maintenance. Although Harmony has implemented a comprehensive maintenance strategy, incidents resulting in production delays, increased costs or industrial accidents may occur. Such incidents may have an adverse effect on Harmony’s operating results and financial condition.

Fluctuations in input production prices linked to commodities may adversely affect Harmony’s operational results and financial condition

Fuel, energy and consumables, including diesel, heavy fuel oil, chemical reagents, explosives, tires, steel and mining equipment consumed in mining operations, form a relatively large part of the operating costs and capital expenditure of a mining company. Harmony has no control over the costs of these consumables, many of which are linked to some degree to the price of oil and steel.

Fluctuations in oil and steel prices have a significant impact on operating cost and capital expenditure estimates and, in the absence of other economic fluctuations, could result in significant changes in the total expenditure estimates for new mining projects or render certain projects non-viable, either of which could have a material adverse effect on our business, operating results and financial condition.

Disruptions to the supply of electricity and increases in the cost of power may adversely affect our results of operations and financial condition

In South Africa, each of our mining operations depends on electrical power generated by the South African state utility, Eskom Limited ("**Eskom**"), which holds a monopoly in the South African market. Electricity supply in South Africa has been constrained over the past decade and there have been multiple power disruptions. Although the electricity supply in South Africa had improved prior to this year, Eskom began declaring load shedding in December 2018. The load shedding rose to Stage 4 (short of 4000 MW) in February 2019 and was reinstated in March 2019. Under Stage 4 load shedding, approximately 80% of the country’s demand is met through scheduled load shedding 12 times over a four-day period for two hours at a time, or twelve times over an eight-day period for four hours at a time. Eskom’s inability to fully meet the country’s demand has led and may continue to lead to rolling blackouts, unscheduled power cuts and surveillance programs to ensure non-essential lighting and electricity appliances are powered off. There is no assurance that Eskom’s efforts to protect the national electrical grid will prevent a complete national blackout.

Eskom's aging infrastructure, its need to replace or upgrade its power generation fleet and its deferral of routine maintenance due to financial constraints, may adversely affect electricity supply in South Africa. In addition, Eskom's ability to undertake necessary infrastructure and fleet upgrades, on commercially acceptable terms or otherwise, may be limited by the amount of debt it has outstanding, which has increased form R389 billion in fiscal 2018 to R441 billion on August 1, 2019. Any blackouts or other disruptions to power supply could have a material adverse effect on our business, operating results and financial condition.

Although management has been able to comply with the curtailment requirements in response to the load curtailment events experienced in our 2019 fiscal year and the first quarter of fiscal 2020 without incurring material production losses, there can be no guarantee that we will be able to comply with such curtailment requirements without incurring material production losses in the future. During the period of load shedding, Eskom used a significant amount of diesel to run its gas turbines and called on large power users to curtail their power demand. In addition, although Eskom applied to the National Energy Regulator of South Africa (“**NERSA**”), which regulates tariffs, for a 19.9% average increase in electricity tariffs for Eskom’s 2018 to 2019 financial year, NERSA granted Eskom a 5.2% electricity tariff increase for this period. Eskom has expressed concern that this increase may not be adequate to prevent future electricity interruptions and indicated that it intends to challenge NERSA’s decision not to grant the requested 19.9% tariff increase.

In addition to supply constraints, labor unrest in South Africa has before, and may in future, disrupt the supply of coal to power stations operated by Eskom, or the operation of the power stations directly, and result in curtailed supply. For example, in June 2018, during wage negotiations with the National Union of Mines ("**NUM"**), workers embarked on an illegal strike which resulted in power constraints and load curtailment. Despite the fact that Eskom has adopted a policy of asking households to reduce usage before asking industrial users to do so in order to reduce the economic impact of such disruptions, Eskom has warned that power constraints will continue.

In February 2019, the President of South Africa announced the vertical unbundling of Eskom. While full-state ownership will be maintained, the unbundling is expected to result in the separation of the Eskom’s generation, transmission and distribution functions into separate entities, which may require legislative and/or policy reform. It is expected that this process will take time to implement, causing continued poor reliability of the supply of electricity and an instability in prices and a possible tariff increase above inflation, which are expected to continue through the unbundling process. Should Harmony experience further power tariff increases, its business operating results and financial condition may be adversely impacted.

As mentioned above, although Eskom applied to NERSA for a 19.9% average increase in electricity tariffs for Eskom’s 2018/2019 financial year, NERSA granted Eskom a 5.2% electricity tariff increase for this period. In 2018, NERSA granted Eskom an additional 4.4% tariff increase adjustment from the Regulatory Clearing Account ("**RCA**") for the 2019/2020 financial year. As mentioned above, Eskom has indicated that it intends to challenge NERSA’s decision not to grant the requested 19.9% tariff increase and recently filed court papers to challenge the 4.4% tariff increase in the RCA ruling. In the same period, Eskom submitted their multi-year price determination application to NERSA for the 2018/2019 financial year to the 2021/2022 financial year, initially requesting 15% for these years. The application was later revised to 17%, 15% and 15% for the 2019/2020, 2020/2021 and 2021/2022 financial years, respectively. In March 2019, NERSA awarded Eskom tariff increases of 9.4% (effectively 13.8% when combined with the previously agreed 4.4% increase that comes into effect April 2019), 8.1% and 5.2%, for the 2019/2020, 2020/2021 and 2021/2022 financial years, respectively. NERSA also announced the approval of R3.869 billion from the RCA in costs incurred by Eskom over and above the previously regulated costs. The recovery period from the consumer is yet to be determined.

Eskom is also expected to submit to NERSA requests for three RCA applications for the 2014/2015, 2015/2016 and 2016/2017 fiscal years, amounting to nearly R66 billion. Should all three applications be granted and included in the tariff increase request in one year, this could result in approximately a 34% tariff increase. Should we experience further power tariff increases, our business operating results and financial condition may be adversely impacted.

PNG has limited power generation and distribution capacity, supplied by the state utility, PNG Power. This capacity is increasing but it is subject to disruptions in electrical power supply. Currently, Harmony mines and projects still partially or entirely rely on our own diesel-generated power. The cost of this power will fluctuate with changes in the oil price. Disruptions in electrical power supply or substantial increases in the cost of oil could have a material adverse effect on our business, operating results and financial condition.

Also, see Item 5:*“Operating and Financial Review and Prospects - Electricity in South Africa.”* and *“Integrated Annual Report for the 20-F 2019 - Managing our Social and Environmental Impacts - Environmental management and stewardship”* on pages 80 to 102.

We may experience problems in identifying, financing and managing new acquisitions or other business combination transactions and integrating them with our existing operations. We may not have full management control over future joint venture partners

In order to maintain or expand our operations and reserve base, Harmony has sought, and may continue to seek to enter into joint ventures or other business combination transactions or to make acquisitions of selected precious metal producing companies or assets. For example, in 2018 Harmony acquired AngloGold Ashanti Limited’s Moab Khotsong and Great Noligwa mines together with other assets and related infrastructure in the Moab Acquisition.

Acquiring new gold mining operations or entering into other business combination transactions involves a number of risks including:

- our ability to identify appropriate assets for acquisition and/or to negotiate an acquisition or combination on favorable terms;
- obtaining the financing necessary to complete future acquisitions;
- difficulties in assimilating the operations of the acquired business;
- the changing regulatory environment as it relates to the Mining Charter (as defined below) and the general policy uncertainty in South Africa;
- difficulties in maintaining our financial and strategic focus while integrating the acquired business;
- problems in implementing uniform quality, standards, controls, procedures and policies;
- management capacity, and skills to supplement that capacity, to integrate new assets and operations;
- increasing pressures on existing management to oversee an expanding company; and
- to the extent we acquire mining operations or enter into another business combination transaction outside South Africa, Australia or PNG, encountering difficulties relating to operating in countries in which we have not previously operated.

Any such acquisition or joint venture may change the scale of our business and operations and may expose us to new geographic, geological, political, social, operating, financial, legal, regulatory and contractual risks. Our ability to make successful acquisitions and any difficulties or time delays in achieving successful integration of any of such acquisitions could have a material adverse effect on our business, operating results and financial condition.

In addition, to the extent that Harmony participates in the development of a project through a joint venture or other multi-party commercial structure, there could be disagreements, legal or otherwise or divergent interests or goals among the parties, which could jeopardize the success of the project, particularly if Harmony does not have full management control over the joint venture. There can be no assurance that any joint venture will achieve the results intended and, as such, any joint venture could have a material adverse effect on our revenues, cash and other operating costs. See Item 5. "*Operating and Financial Review and Prospects - Liquidity and Capital Resources - Investing*."

Certain factors may affect our ability to support the carrying value of our property, plant and equipment, goodwill and other assets on our balance sheet, resulting in impairments

Harmony reviews and tests the carrying value of its assets when events or changes in circumstances suggest that this amount may not be recoverable and impairments may be recorded as a result of testing performed.

Our market capitalization on any reporting date is calculated on the basis of the price of our shares and ADSs on that date. Our shares and ADSs may trade in a wide range through the fiscal year depending on the changes in the market, including trader sentiment on various factors including gold price. Therefore, there may be times where our market capitalization is greater than the value of our net assets, or “book value”, and other times when our market capitalization is less than our book value. Where our market capitalization is less than our net asset or book value, this could indicate a potential impairment and we may be required to record an impairment charge in the relevant period.

At least on an annual basis for goodwill, and when there are indications that impairment of property, plant and equipment and other assets may have occurred, estimates of expected future cash flows for each group of assets are prepared in order to determine the recoverable amounts of each group of assets. These estimates are prepared at the lowest level at which identifiable cash flows are considered as being independent of the cash flows of other mining assets and liabilities. Expected future cash flows are inherently uncertain, and could materially change over time. Such cash flows are significantly affected by reserve and production estimates, together with economic factors such as spot and forward gold prices, discount rates, currency exchange rates, estimates of costs to produce reserves and future capital expenditures.

As at June 30, 2019, Harmony had substantial amounts of property, plant and equipment, goodwill and other assets on its consolidated balance sheets. Impairment charges of R3,898 million relating to property, plant and equipment and other assets were recorded in fiscal 2019. If management is required to recognize further impairment charges, this could affect Harmony’s results of operations and financial condition. See Item 5: *“Operating and Financial Review and Prospects - Critical Accounting Policies and Estimates - Impairment of Property, Plant and Equipment”* and “*- Carrying Value of Goodwill.”*

Given the nature of mining and the type of gold mines we operate, we face a material risk of liability, delays and increased cash costs of production from environmental and industrial accidents and pollution compliance breaches

The business of gold mining involves significant risks and hazards, including environmental hazards and industrial accidents. In particular, hazards associated with underground mining include:

- rock bursts;
- seismic events;
- underground fires;
- cave-ins or fall-of-ground;
- discharges of gases and toxic chemicals;
- release of radioactive hazards;
- flooding;
- mining of pillars (integrity of shaft support structures may be compromised and cause increased seismicity);
- processing plant fire and explosion;
- critical equipment failures;
- accidents and fatalities; and
- other conditions resulting from drilling, blasting and the removal and processing of material from a deep-level mine.

Hazards associated with opencast mining (also known as open-pit mining) include:

- flooding of the open-pit;
- collapse of open-pit walls or slope failures;
- processing plant fire and explosion;
- accidents associated with operating large open-pit and rock transportation equipment;
- accidents associated with preparing and igniting of large-scale open-pit blasting operations; and
- major equipment failures.

Hazards associated with construction and operation of waste rock dumps and tailings storage facilities include:

- accidents associated with operating a waste dump and rock transportation;
- production disruptions caused by natural phenomena, such as floods and droughts and weather conditions, potentially exacerbated by climate change;
- dam, wall or slope failures; and
- contamination of ground or surface water.

We are at risk from any or all of these environmental and industrial hazards. In addition, the nature of our mining operations presents safety risks. Harmony's operations are subject to health and safety regulations, which could impose additional costs and compliance requirements. Harmony may face claims and liability for breaches, or alleged breaches, of such regulations and other applicable laws. The occurrence of any of these events could delay production, increase cash costs and result in financial liability to Harmony, which, in turn, may adversely affect our results of operations and our financial condition.

The nature of our mining operations presents safety risks

The environmental and industrial risks identified above also present safety risks for Harmony's operations and our employees and could lead to the suspension and potential closure of operations for indeterminate periods. Safety risks, even in situations where no injuries occur, can have a material adverse effect on Harmony's results of operations and financial condition. See Item 4: "*Information on the Company - Business Overview - Regulation - Health and Safety - South Africa*" and *"Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being - maintaining stability in our workforce -Safety and health"* on pages 33 to 49.

Illegal and artisanal mining, including theft of gold and copper bearing material, and other criminal activity at our operations could pose a threat to the safety of employees, result in damage to property and could expose the Company to liability

The activities of illegal and artisanal miners, which include theft and shrinkage, could cause damage to Harmony's properties, including by way of pollution, underground fires, operational disruption, project delays or personal injury or death, for which Harmony could potentially be held responsible. Illegal and artisanal mining could result in the depletion of mineral deposits, potentially making the future mining of such deposits uneconomic.

Illegal and artisanal mining (which may be by employees or third parties) is associated with a number of negative impacts, including environmental degradation and human rights abuse. Effective local government administration is often lacking in the locations where illegal and artisanal miners operate because of rapid population growth and the lack of functioning structures, which can create a complex social and unstable environment.

Criminal activities such as trespass, illegal and artisanal mining, sabotage, theft and vandalism could lead to disruptions at certain of our operations.

Rising gold and copper prices may result in an increase in gold and copper thefts. The occurrence of any of these events could have a material adverse effect on Harmony's financial condition on results of its operations.

Harmony's insurance coverage may prove inadequate to satisfy future claims against it

Harmony has third-party liability coverage for most potential liabilities, including environmental liabilities. Harmony may be subject to liability for pollution (excluding sudden and accidental pollution) or other hazards against which we have not insured or cannot insure, including those for past mining activities. Harmony also maintains property and liability insurance consistent with industry practice, but this insurance contains exclusions and limitations on coverage. In addition, there can be no assurance that insurance will be available at economically acceptable premiums. As a result, Harmony's insurance coverage may not cover the claims against it, including for environmental or industrial accidents or pollution, which could have a material adverse effect on Harmony's financial condition.

Harmony's operations may be negatively impacted by inflation

Harmony's operations have been materially affected by inflation. Inflation in South Africa has fluctuated in a narrow band in recent years, remaining within or just outside the inflation range of 3% - 6% set by the South African Reserve Bank. At the end of fiscal 2017, 2018 and fiscal 2019, inflation was 5.1%, 4.4% and 4.5%, respectively. However, working costs, in particular electricity costs and wages have increased at a rate higher than inflation in recent years, resulting in significant cost pressures for the mining industry. See Item 5: "*Operating and Financial Review and Prospects - Operating Results - Electricity in South Africa - Tariffs*". Should Harmony experience further electricity or wage increases, its business, operating results and financial condition may be adversely impacted.

The inflation rate in PNG ended fiscal 2017 at 6.6% and 2018 at 4.7%, while the annualized inflation stood at 4.5% at the end of fiscal 2019.

Harmony's results of operations, profits and financial condition could be adversely affected to the extent that cost inflation is not offset by devaluation in operating currencies or an increase in the price of gold.

The socio-economic framework in the regions in which Harmony operates may have an adverse effect on its operations and profits

Harmony has operations in South Africa and PNG. As a result, changes to or instability in the economic or political environment in either of these countries or in neighboring countries could affect an investment in Harmony. These risks could include terrorism, civil unrest, nationalization, political instability, change in legislative, regulatory or fiscal frameworks, renegotiation or nullification of existing contracts, leases, permits or other agreements, restrictions on repatriation of earnings or capital and changes in laws and policy, as well as other unforeseeable risks.

In PNG, a mining legislative review has been commissioned involving various PNG government agencies. The legislation being reviewed includes the PNG Mining Act 1992, PNG Mining (Safety) Act 1977 and applicable regulations. Mineral Policy and mining-specific sector policies including biodiversity offsets, offshore mining policy, sustainable development policy, involuntary relocation policy and mine closure policy, and the PNG government's right to acquire an interest in a mine discovery, the percentage extent of such right and the consideration payable for it, are also being reviewed. The Chamber of Mines and Petroleum of PNG, as the representative industry body, has been collating information from industry participants regarding the review of current legislation and policy and engaging with the PNG government as part of the response to the governments mining legislation review.

In 2014, the PNG Government instigated a review of the tax regime with a final report issued by the Tax Review Committee in October 2015. Pursuant to the tax regime review, certain adverse changes to the fiscal regime were introduced with effect from January 1, 2017, with the main changes being the introduction of an Additional Profit Tax, the cessation of the double deduction allowance for exploration expenditure, and an increase in the rates of interest withholding and dividend withholding taxes. Further changes, including a Capital Gains Tax, have been indicated to be introduced from 1 January 2020 and draft legislation has been issued for discussion. Harmony, via the Chamber of Mines, has submitted on aspects of the draft legislation.

It is difficult to predict the future political, social and economic environment in these countries, or any other country in which Harmony operates, and the impact government decisions may have on its business.

Actual and potential shortages of production inputs and supply chain disruptions may affect Harmony's operations and profits

Harmony's operational results may be affected by the availability and pricing of consumables such as fuel, chemical reagents, explosives, tires, steel and other essential production inputs. Issues with regards to availability of consumables may result from shortages, long lead times to deliver and supply chain disruptions, which could result in production delays and production shortfalls.

These shortages and delayed deliveries may also be experienced where industrial action affects Harmony's suppliers. These issues could also affect the pricing of the consumables, especially if shortages are experienced. The price of consumables may be substantially affected by changes in global supply and demand, along with natural disasters such as earthquakes, climate change, extreme weather conditions, governmental controls, industrial action and other factors. A sustained interruption to the supply of any of these consumables would require Harmony to find acceptable substitute suppliers and could require it to pay higher prices for such materials. A sustained interruption might also adversely affect Harmony's ability to pursue its development projects.

Any significant increase in the prices of these consumables would increase operating costs and adversely affect profitability, which could adversely affect our results of operations and our financial condition.

Harmony's ability to service its debt will depend on its future financial performance and other factors

Harmony's ability to service its debt depends on its financial performance, which in turn will be affected by its operating performance as well as by financial and other factors, and in particular the gold price, certain of which are beyond the control of the Company. Various financial and other factors may result in an increase in Harmony's indebtedness, which could adversely affect the Company in several respects, including:

- limiting its ability to access the capital markets;
- hindering its flexibility to plan for or react to changing market, industry or economic conditions;
- limiting the amount of cash flow available for future operations, acquisitions, dividends, or other uses, making it more vulnerable to economic or industry downturns, including interest rate increases;
- increasing the risk that it will need to sell assets, possibly on unfavorable terms, to meet payment obligations; or
- increasing the risk that it may not meet the financial covenants contained in its debt agreements or timely make all required debt payments.

The occurrence of any of these events could adversely affect our results of operations and our financial condition.

Harmony's ability to service its debt also depends on the amount of its indebtedness. In order to conclude the Moab Acquisition, Harmony increased its indebtedness. Harmony entered into a US$350 million three-year syndicated term and revolving facility in July 2017, of which US$295 million (R4,167 million) was drawn down and outstanding as of June 30, 2019. See Item 5: "*Operating and Financial Review and Prospects - Liquidity and Capital Resources - Outstanding Credit Facilities and Other Borrowings".*

In the near term, Harmony expects to manage its liquidity needs from cash generated by its operations, cash on hand, committed and underutilized facilities, as well as additional funding opportunities. However, if Harmony's cost of debt were to increase or if it were to encounter difficulties in obtaining financing in the future, its sources of funding may not match its financing needs, which could have a material adverse effect on its business, operating results and financial condition.

Uncertainty relating to the nature and timing of the potential phasing out of LIBOR, and agreement on any new alternative reference rates may adversely impact our borrowing cost

LIBOR, the London Interbank Offered Rate, is widely used as a reference for setting interest rates on loans globally. We have used LIBOR as a reference rate on our US$350 million three-year syndicated term loan and revolving credit facility as well as our US$24 million four-year loan. Combined we had R4,426 million (US$313 million) outstanding on these facilities at year-end.

On July 27, 2017, the UK Financial Conduct Authority, or FCA, which regulates LIBOR, has announced that it intends to stop encouraging or requiring banks or submit LIBOR rates after the end of 2021. There is therefore no guarantee the LIBOR reference rate will continue in its current form post 2021. Various alternative reference rates are being considered in the financial community. The Secured Overnight Financing Rate, has been proposed by the Alternative Reference Rate Committee, a committee convened by the US Federal Reserve that includes major market participants and on which regulators participate, as an alternative rate to replace US dollar LIBOR.

On August 19, 2019, Harmony and a syndicate of local and international lenders entered into a loan facility agreement, pursuant to which Harmony and the lenders agreed that a new reference rate will be agreed upon by mutual consent. However there is no guarantee that a transition from LIBOR to a new reference rate will not result in market disruptions, and possibly result in increases to our borrowing costs. See Item 5: *"Operating and Financial Review and Prospects - Liquidity and Capital Resources"*.

Mining companies face strong competition

The mining industry is competitive in all of its phases. Harmony competes with other mining companies and individuals for specialized equipment, components and supplies necessary for exploration and development, for mining claims and leases on exploration properties and for the acquisition of mining assets. These competitors may have greater financial resources, operational experience and technical capabilities than Harmony. Competition may increase Harmony's cost of acquiring suitable claims, properties and assets, which could have a material adverse effect on its financial condition.

We also compete with mining and other companies for key human resources

The risk of losing senior management or being unable to hire and retain sufficient technically skilled employees or sufficient HDSA representation in management positions, may materially impact on Harmony's ability to achieve their objectives.

Harmony competes with mining and other companies globally to attract and retain key human resources at all levels with the appropriate technical skills and operating and managerial experience necessary to continue operating its business. The need to recruit, develop and retain skilled employees is particularly critical with HDSAs, women in mining in South Africa, and the global shortage of key mining specialists, including geologists, mining engineers, mechanical and electrical engineers, metallurgists and skilled artisans has been exacerbated by increased mining activity across the globe. There can be no assurance that Harmony will attract and retain skilled and experienced employees. Should Harmony lose any of its key personnel, its business may be harmed and its operational results and financial condition could be adversely affected. See Item 4. "*Information on the Company - Business Overview - Regulation - Labor Relations*" and *"Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being - maintaining stability in our workforce-employee relations"* on pages 49 to 56.

In PNG, consideration is being given by government to revisions of local content policy which will severely restrict the utilization of off-shore-based "Fly-In, Fly Out" expatriate employees, and prescribe increased levels of participation by locally-owned businesses in the provision of goods and services. This will adversely affect the capacity of Harmony to engage and retain appropriately skilled human resources, and manage the costs of goods and services to its operations. It will also necessitate the application of additional resources to the construction or provision of housing for residential employees, and the recruiting and training of local landowners and landowner businesses.

Since Harmony's labor force has substantial trade union participation, Harmony faces the risk of disruption from labor disputes and non-procedural industrial action resulting in loss of production and increased labor costs impacting negatively on production and financial results

Despite a history of constructive engagement with labor unions, there are periods when various stakeholders are unable to agree on dispute resolution processes. Disruptive activities on the part of labor, which normally differ in intensity, then become unavoidable. Due to the high level of union membership, which is about 93% among our employees, we are at risk of production stoppages for indefinite periods due to strikes and other disputes, especially wildcat strikes. Inter-union rivalry may increase the risk of labor relations instability. In addition, in South Africa, a variety of legacy issues such as housing, migrant labor, education, poor service delivery and youth unemployment can lead to communities and unions working together to create instability in and around mining operations. During 2020, one of our mines based in the Free State, known as Unisel, will reach the end of its economic and operating life which will result in the discontinuation of mining operation on the mine. The mine employs about 850 employees most of whom are expected to be absorbed into other Harmony operations

In October 2018, Harmony concluded a three year wage agreement with unions representing the majority of the Company's employees. This agreement was extended to all employees irrespective of union affiliation. The Company has experienced a relatively peaceful labor environment since the conclusion and implementation of the said wage agreement. However we are not able to predict whether we will experience significant labor disputes in future, or what the financial impact of any such disputes may be. See Item 4: "*Information on the Company - Business Overview - Regulation - Labor Relations*", *"Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being - maintaining stability in our workforce-employee relations"* on pages 49 to 56. South African employment law sets out minimum terms and conditions of employment for employees. Although these may be improved by agreements between us and the trade unions, prescribed minimum terms and conditions form the benchmark for all employment contracts. See *"Integrated Annual Report for the 20-F 2019 - Operating context - Stakeholder engagement"* on pages 24 to 27*.*

We are required to submit a report under South African employment law detailing the progress made towards achieving employment equity in the workplace. If this report is not submitted, we could incur substantial penalties.

Developments in South African employment law may increase our cash costs of production or alter our relationship with our employees and trade unions, which may have an adverse effect on our business, operating results and financial condition.

In the event that Harmony experiences industrial relations related interruptions at any of its operations or in other industries that impact its operations, or increased employment-related costs due to union or employee activity, these may have a material adverse effect on our business, production levels, operating costs, production targets, operating results, financial condition, reputation and future prospects. In addition, mining conditions can deteriorate during extended periods without production, such as during and after strikes; lower levels of mining activity can have a longer term impact on production levels and operating costs, which may affect our mines' operating life.

In PNG, the workforce is not significantly unionized. However, operations are subject to disruption as a result of actions taken by landowners and occupants of the land within the area of impact of such operations, including the blockading of access routes to the operations. These disruptions generally arise as a result of grievances with regard to the non-distribution by the State to local communities of mine-derived royalties and other benefits, or in relation to the participation of local businesses in the provision of goods and services to the operations.

HIV/AIDS, tuberculosis and other contagious diseases pose risks to us in terms of productivity and costs

The prevalence of HIV/AIDS and other contagious diseases in South Africa and PNG poses risks to us in terms of potentially reduced productivity, and increased medical and other costs. Compounding this are concomitant infections, such as tuberculosis, that can accompany HIV illness and cause additional health care-related costs. If there is a significant increase in the incidence of HIV/AIDS infection and related diseases among the workforce over the next several years, this may have an adverse impact on our results of operations and financial condition. See *"Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being - maintaining stability in our workforce - Safety and health"* on pages 33 to 49.

The cost of occupational health care services and the potential liabilities related to occupational health diseases may increase in future and may be substantial

Harmony's operations are subject to health and safety regulations which could impose significant cost burdens. In South Africa, the present Mine Health and Safety Act, 29 of 1996 imposes various duties on mines and grants the authorities broad powers to, among others, close mines which are unsafe or hazardous to the health of persons and order corrective action on health and safety matters. Operations in PNG are subject to similar duties and powers, including under the following laws and regulations: PNG Mining Act 1992, PNG Mining (Safety) Act 1977, PNG Mining Safety Regulation 1935 (updated 2006) and PNG Environment Act 2000.

There is a risk that the cost of providing health services, complying with applicable regulations, including the Compensation for Occupational Injuries and Diseases Act, 130 of 1993 ("**COIDA**") and the Occupational Diseases in Mines and Works Act, 78 of 1973 ("**ODMWA**"), and implementing various programs could increase in future, depending on changes to underlying legislation, legal claims and the profile of our employees. This increased cost, should it transpire, could be substantial, but is currently indeterminate.

Harmony has been subject to numerous claims, including class actions or similar group claims relating to silicosis and other occupational lung diseases, and could be subject to similar claims in the future. For instance, in May 2016, the South Gauteng High Court certified a class action by current and former mineworkers against gold mining companies in South Africa, including Harmony. The action consists of two classes: the silicosis class and the tuberculosis "**TB**" class. Each class includes mineworkers and dependents whose parents died after contracting silicosis and/or TB while working at the mines. The certification of the class means that the claimants were able to sue the mining companies as a class. While issues, such as negligence and causation, need to be proved by the claimant on a case- by-case basis, such a ruling could expose Harmony to claims related to occupational hazards and diseases (including silicosis and TB, which may be in the form of an individual claim, a class action or a similar group claim). The Supreme Court of Appeal granted the mining companies leave to appeal against all aspects of the class May 2016 judgment. The appeal hearing before the Supreme Court of Appeal was scheduled to be heard in March 2018. However, the parties agreed to postpone the matter to conclude settlement negotiations. The matter was subsequently settled in May 2018. The terms of the settlement is available on the Harmony website. The settlement was subject to certain conditions, including that an unconditional order of court, sanctioning the settlement agreement to make the settlement agreement an order of court, is obtained from the High Court. Such an order was obtained on July 26, 2019, subject to certain conditions which is expected to be fulfilled in December 2019. See Item 8: *"Financial Information - Consolidated Statements and Other Financial Information - Legal Proceedings"* and *"Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being - maintaining stability in our workforce - Safety and health"* on pages 33 to 49 for further information. See note 26 *"Provision for silicosis settlement*" to our consolidated financial statements set forth beginning on page F-1.

The Occupational Lung Disease Working Group ("**Working Group"**), was formed in fiscal 2014 to address issues relating to compensation and medical care for occupational lung disease in the South African gold mining industry. The Working Group, made up of African Rainbow Minerals Limited, Anglo American SA, AngloGold Ashanti Limited, Gold Fields Limited, Harmony and Sibanye Gold Limited, has had extensive engagements with a wide range of stakeholders since its formation, including government, organized labor, other mining companies and the legal representatives of claimants who have filed legal actions against the companies.

The members of the Working Group are among respondent companies in a number of legal proceedings related to occupational lung disease, including the class action referred to above. The Working Group is however of the view that achieving a comprehensive settlement which is both fair to past, present and future employees and sustainable for the sector, is preferable to protracted litigation. On July 26, 2019, the Johannesburg High Court approved a R5.2 billion settlement of the silicosis and tuberculosis class action suit between the Working Group and lawyers representing affected mineworkers. The Working Group will continue with its efforts to find common ground with all stakeholders, including government, labor and the claimants' legal representatives.

As a result of the ongoing work of the Working Group and engagements with affected stakeholders since December 31, 2016, Harmony provided for its share of the estimated cost in relation to the Working Group of a settlement of the class action claims and related costs. At June 30, 2019 the provision in Harmony's statement of financial position was R942 million. Harmony believes that this remains a reasonable estimate of its share of the estimated cost in relation to the Working Group of the settlement of the class action claims and related costs. The final settlement costs and related expenditure may, however, be higher than the recorded provision depending on various factors, such as, among other things, differences in the number and profile of eligible claimants actually compensated compared to current estimates and fluctuations in foreign exchange rates.

If Harmony or any of its subsidiaries were to face a significant number of additional such claims and the claims were suitably established against it, the payments of compensation to the claimants could have a material adverse effect on Harmony's results of operations and financial condition. In addition, Harmony may incur significant additional costs, including costs relating to the payment of fees, levies or other contributions in respect of compensatory or other funds established (if any), and expenditures arising out of its efforts to resolve any such claims or other potential actions.

Harmony is subject to the imposition of various regulatory costs, such as mining taxes and royalties, changes to which may have a material adverse effect on Harmony's operations and profits

In recent years, governments, communities, non-government organizations and trade unions in several jurisdictions have sought and, in some cases, have implemented greater cost imposts on the mining industry, including through the imposition of additional taxes and royalties. Such resource nationalism, whether in the form of cost imposts, interference in project management, mandatory social investment requirements, local content requirements or creeping expropriation could impact the global mining industry and Harmony's business, operating results and financial condition.

In December 2017, during its national conference, the African National Congress ("**ANC"**) resolved that as a matter of policy, the ANC should pursue the expropriation of land without compensation, provided that such expropriation is carried out without destabilizing the agricultural sector, endangering food security or undermining economic growth and job creation. In February 2018, the National Assembly assigned the Constitutional Review Committee ("**CRC**"), to review section 25 of South Africa’s Constitution and other relevant clauses to make it possible for the state to expropriate land in the public interest without compensation. On December 4, 2018, South Africa’s Parliament adopted the CRC’s report dated November 15, 2018 in which it recommended that section 25 of South Africa’s Constitution be amended to make explicit that expropriation of land without compensation is a legitimate option for land reform. While the CRC’s report recommended that such amendment to South Africa’s Constitution be tabled and passed before the South African general elections in May 2019, the ad hoc committee responsible for preparing the bill to amend South Africa’s Constitution has not yet submitted a timeline for meetings or public hearings. On March 13, 2019, the CRC announced that the work to amend section 25 of South Africa’s Constitution would not be finished before the South African general elections in May 2019 and that consequently the matter would be taken up by Parliament after the elections. In the event that the CRC recommends a Constitutional amendment in favor of expropriation, various procedural milestones would need to occur, including a bill amending section 25 of the Constitution approved by a majority of the National Assembly as well as six of the nine provinces of the National Council of Provinces ("**NCOP**") and signed by the President, among others.

While the South African government has stated that it does not intend to nationalize mining assets or mining companies, certain political parties have stated publicly and in the media that the government should embark on a program of nationalization. For instance, the ANC has adopted two recommended approaches to interacting with the mining industry. While the ANC has rejected the possibility of mine nationalization for now, the first approach contemplates, among other things, greater state intervention in the mining industry, including the revision of existing royalties, the imposition of new taxes and an increase in the South African government’s holdings in mining companies. The second approach contemplates the South African government taking a more active role in the mining sector, including through the introduction of a state mining company to be involved in new projects either through partnerships or individually.

The proposed amendment to section 25 of South Africa’s Constitution or any legislation resulting in the expropriation of land or greater government intervention could disrupt our operations, which could have a material adverse effect on our business, operating results and financial condition.

The former President, Jacob Zuma, appointed the Davis Tax Committee to look into and review the current mining tax regime. The committee’s first interim report on mining, which was released for public comment on August 13, 2015, proposed no changes to the royalty regime but recommended the discontinuation of the upfront capital expenditure write-off regime in favor of an accelerated capital expenditure depreciation regime. In addition, the report recommended retaining the so called "gold formula" for existing gold mines only, as new gold mines would be unlikely to be established in circumstances where profits are marginal or where gold mines would conduct mining of the type intended to be encouraged by the formula. The committee also recommended the phasing out of additional capital allowances available to gold mines in order to bring the gold mining corporate income tax regime in line with the tax system applicable to all taxpayers. In December 2016, following a period of public comment, the committee issued its second and final report to the Minister of Finance, which largely reaffirmed the committee's initial recommendations. The final reports were published in November 2017. The South African National Treasury will continue to consider the committee’s final recommendations. It is not clear at this stage which, if any, of the recommendations will be adopted as legislation. Such legislation could, however, have a material adverse effect on our results of operations.

Laws governing mineral rights affect our business and could impose significant costs and burdens. Mineral rights in the countries in which we operate could be altered, suspended or canceled for a variety of reasons, including breaches in its obligations in respect of such mining rights

Our operations in South Africa and PNG are subject to legislation regulating mineral rights. Certain of the Company’s properties may be subject to the rights or the asserted rights of various community stakeholders, including indigenous people. The presence of those stakeholders may therefore have an impact on Harmony’s ability to develop or operate its mining interests.

In South Africa, we are governed by the South African Mineral and Petroleum Resources Development Act, 28 of 2002 (“**MPRDA**”). See Item 4: “*Information on the Company - Business Overview - Regulation - Mineral Rights - South Africa - MPRDA”* for a description of the principal objectives set out in the MPRDA.

The MPRDA was promulgated as effective legislation on May 1, 2004 and transfered ownership of mineral resources to the South African people, with the South African government acting as custodian in order to, among other things, promote equitable access to the nation’s mineral resources by South Africans, expand opportunities to HSDAs who wish to participate in the South African mining industry and advance socio-economic development. We currently continue to comply with the requirements of the MPRDA. Any failure to comply with the conditions of our mining rights, whether intentional or unintentional, could have a material adverse effect on our operations and financial condition and could result in the cancellation or suspension of our mining rights.

On June 21, 2013, the Minister of Mineral Resources and Energy ("**Minister**") introduced the Mineral and Petroleum Resources Development Amendment Bill, 2013 (the **"MPRDA Bill**") into Parliament. The South African Department of Mineral Resources (as it then was known, but now is referred to as the Department of Mineral Resources and Energy ("**DMRE**")) briefed the National Assembly's Portfolio Committee on Mineral Resources in July 2013. The MPRDA Bill was passed by both the National Assembly and the NCOP on March 27, 2014. In January 2015, the former President, Jacob Zuma, referred the MPRDA Bill back to Parliament for reconsideration and on November 1, 2016, the Portfolio Committee on Mineral Resources tabled non-substantial revisions to the MPRDA Bill in the National Assembly and a slightly revised version of the MPRDA Bill was passed by the National Assembly and referred to the NCOP. On March 3, 2017, the National Assembly passed certain minor amendments to the MPRDA Bill. The National Assembly has referred the MPRDA Bill to the NCOP where the Select Committee has received comments on the draft legislation. The chairperson of the Select Committee had targeted January or February of 2018 to pass the legislation. On February 16, 2018, the President of South Africa, Cyril Ramaphosa, announced that the MPRDA Bill was at an advanced stage in Parliament. However, in August 2018, the Minister announced that, given certain concerns with the MPRDA Bill, his recommendation would be to withdraw it entirely. Cabinet has subsequently supported its withdrawal but Parliament has yet to formally withdraw it. While the MPRDA Bill was not formally withdrawn by Parliament, it lapsed on March 28, 2019. Although Parliament has the ability to revive a lapsed Bill, it seems unlikely that it will revive the MPRDA Bill given both the Minister's and Cabinet's support for its withdrawal.

There is a large degree of uncertainty regarding the changes that will be brought about should the MPRDA Bill not be withdrawn and if it is made law. Among other things, the MPRDA Bill provides that applicants will no longer be able to rely on the "first come, first served" principle when submitting an application for a right, it seeks to require the consent of the Minister for the transfer of any interest in an unlisted company or any controlling interest in a listed company where such companies hold a prospecting right or mining right and to give the Minister broad discretionary powers to prescribe the levels of minerals required to be offered to domestic beneficiators for beneficiation. We cannot yet determine the full impact that the MPRDA Bill may have on our business and there can be no assurance that such changes will not have a material adverse effect on our operations and financial condition.

On September 27, 2018, the Minister published the Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry, 2018 ("**Mining Charter III**"), on which date it also became effective , as amended by the notice published in the Government Gazette on December 19, 2018 and read with the Implementation Guidelines for the Broad Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry, 2018 ("**Implementation Guidelines"**) published on the same date. It replaces, in their entirety, the original Mining Charter negotiated in 2002 and gazetted in 2004 (the **"Original Charter**") and the "amended" Charter gazetted in September 2010 (the **"Amended Charter**"). Mining Charter III imposes new obligations and increased participation by Historically Disadvantaged South Africans ("**HDSAs**") in relation to a mining company's ownership, procurement of goods and services, enterprise and supplier development, human resource development and employment equity requirements. The first annual reporting for compliance with Mining Charter III is on or before March 31, 2020.

While the HDSA ownership requirement in relation to existing mining rights has not increased (provided that Harmony met the 26 percent requirement under the Amended Charter), Harmony may be required to comply with new HDSA ownership requirements in relation to any renewals, consolidations and transfers of its existing rights and any applications for new mining rights. The increased HDSA requirements in relation to employment equity, procurement of goods and services and enterprise and supplier development may result in additional costs being incurred by Harmony, which could have a material adverse effect on our results of operations and financial condition.

While Mining Charter III was effective from September 27, 2018, many of its provisions are vague and untested despite the publication of the Implementation Guidelines for the 2018 Mining Charter in the Government Gazette on December 19, 2018. See Item 4: "Information on the Company - Business Overview -Regulation - Mineral Rights - South Africa - The Mining Charter".

On March 26, 2019, the Minerals Council South Africa (previously the Chamber of Mines) ("**MCSA**") filed an application for the judicial review and setting aside of certain clauses of Mining Charter III. The MCSA had engaged in ongoing attempts to reach a compromise with the Minister on certain provisions that are problematic for the industry, and which would be detrimental to its sustainability.

The application aligns with the MCSA's previously stated view that most aspects of Mining Charter III represent a reasonable and workable framework. However, the MCSA's application contends that Mining Charter III does not fully recognize the continuing consequences of previous empowerment transactions, particularly in relation to mining right renewals and transfers of such rights. According to the MCSA, this constitutes a breach of the declaratory order on the matter issued by the North Gauteng High Court in April 2018. The ultimate outcome of the review application and ongoing discussions with the Minister remains uncertain.

Harmony cannot guarantee that it will meet all the targets set out by Mining Charter III. Should Harmony breach its obligations in complying with the MPRDA or Mining Charter III, its existing mining rights in South Africa could be suspended or canceled by the Minister in accordance with the provisions of the MPRDA. It may also influence our ability to obtain any new mining rights. Any such suspension or cancellation could have a material adverse effect on our results of operations and financial condition.

In PNG, we are governed by the PNG Mining Act of 1992. Minerals in PNG are owned by the PNG government. PNG initially awards exploration licenses, but retains a right under the conditions of each exploration license, at any time prior to the commencement of mining, to acquire a participating interest of up to 30% in any mineral discovery at historical exploration cost. The PNG government administers mining tenements through the offices of the PNG Mineral Resources Authority. The types of tenements issued include: exploration license; mining lease; special mining lease; alluvial mining lease; lease for mining purpose; and mining easement. Mining companies must pay royalties to the PNG government based on production (currently 2%).

The PNG permitting process for new mining operations can be very time consuming (approximately 18 to 24 months), and (subject to the applicable legislation) there is no assurance that a mining tenement will be granted.

Permitting of the Wafi-Golpu project has been delayed. The Wafi-Golpu Joint Venture (**"WGJV"**) entered into a Memorandum of Understanding (MOU) with the State in December 2018, targeting a special mining lease ("**SML**") grant by June 2019. Since the signing of the MOU in December 2018, a legal matter between the provincial and national government has interrupted the permitting process, and continues to do so. The WGJV remains ready to engage with the Government of PNG and the Regulators. At this stage the permitting time line and road map are still to be redefined.

The PNG government has commissioned a review of the mining regime. Any change to the PNG mining regime may result in the imposition of additional restrictions, obligations, operational costs, taxes or royalty payments that could have a material adverse effect on Harmony's business, operating results and financial condition.

The Chamber of Mines and Petroleum of PNG, as the representative industry body, has been collating information from industry participants and engaging with the PNG government as part of the industry's response to the review proposals.

Laws governing health and safety affect our business and could impose significant costs and burdens

In South Africa, the Mine Health and Safety Act, 29 of 1996 ("**MHSA**") requires that employers implement various measures to ensure the safety and health of persons working at a mine as far as reasonably practicable. This obligation is extended to any contractor employees that may be working at a mine. These obligations include the identification and assessment of risk, implementation of codes of practice and standards setting out safe work procedures, proper and appropriate training, supervision, medical surveillance and the provision of safe equipment and personal protective equipment. Further, Harmony must ensure compliance with various licenses, permissions or consents that have been issued to it in terms of the various pieces of applicable legislation.

An employer may be subjected to significant penalties and/or administrative fines for non-compliance under the MHSA and other applicable legislation. Depending on the particular circumstances, litigation (criminal and/or civil) may be instituted against the employer in respect of an accident or incident which has resulted in the injury, death or occupational disease contracted by an employee (or contractor employee). In some of the jurisdictions in which Harmony operate, the regulatory authority also issues closure notices for the operation or parts thereof, following the occurrence of an injury or death thereat. In the past, certain of our operations have also been temporarily suspended for safety reasons. Such closure notices or suspensions, if of sufficient magnitude, could have a material adverse effect on our business, operating results or financial condition.

Any further changes to the health and safety laws which increase the burden of compliance on the employer and impose higher penalties for non-compliance may result in Harmony incurring further significant costs, which could have a material adverse effect on our business, operating results and financial condition. In addition, our reputation could be damaged by any significant governmental investigation or enforcement of health and safety laws, regulations or standards, which could also have a material adverse effect on our business, operating results and financial condition.

In PNG, the safety of employees and contractors at Harmony's mining operations is regulated by the PNG Mining (Safety) Act 1977 and the Regulations issued thereunder. In terms of section 6(1)(e)(i) of the Act, the inspector has the power to order the cessation of any part of the operations for such (unlimited) time as he or she considers may be necessary to satisfy the safety provisions of the Act. Such order for cessation can often result in lower or a total stoppage of production resulting in significant financial losses during the cessation.

We are subject to extensive environmental regulations

As a gold mining company, Harmony is subject to extensive environmental regulation. We expect the trend of rising production costs due to compliance with South African and PNG environmental laws and regulations to continue.

In South Africa, the MPRDA, certain other environmental legislation and the administrative policies of the South African government regulate the impact of the Company's prospecting and mining operations on the environment. On the suspension, cancellation, termination or lapsing of a prospecting or mining right, Harmony will remain liable for compliance with the provisions of various relevant regulations, including any latent significant environmental impacts manifesting post-closure, notwithstanding the issuance of a closure certificate is issued by the DMRE. This liability will continue until the appropriate authorities have (i) certified that the Company has complied with such provisions or (ii) authorized the transfer of liability to a competent party.

Estimates of ultimate closure and rehabilitation costs are significant and are based principally on current legal and regulatory requirements that may change materially. Environmental provisions are accrued when they become known, probable and can be reasonably estimated based on current contractor rates and in some instances based on industry good practice. In future, Harmony may incur significant costs for compliance with increasingly stringent requirements being imposed under new legislation. Harmony may also face increased environmental costs should other mines in the vicinity fail to meet their obligations on the pumping or treatment of water.

The South African government has reviewed requirements imposed on mining companies to ensure environmental restitution. For example, following the introduction of an environmental rights clause in South Africa's constitution, a number of environmental legislative reform processes have been initiated. Legislation passed as a result of these initiatives has tended to be materially more onerous than previous laws in South Africa. Examples of such legislation include the MPRDA, the National Nuclear Regulator Act, 47 of 1999, the National Water Act, 36 of 1998 ("**NWA**") and the National Environmental Management Act, 107 of 1998 ("**NEMA**"), which include stringent "polluter pays" provisions. The adoption of these or additional or more comprehensive and stringent requirements, particularly for the management of hazardous waste, pollution of ground and groundwater systems and duty to rehabilitate closed mines, may result in additional costs and liabilities. The "financial provision" regulations under NEMA were originally published in November 2015 and amended in October 2016. Further revisions and proposed amendments were published, the most recent of which was dated May 17, 2019. The proposed financial provision regulations place an emphasis on post-closure water pumping and treatment and the need for upfront provision to be set aside for the management of these types of impacts. Under revisions and amendments proposed in 2019, for instance, Harmony estimated that it may be subject to an increase in the financial provision set aside for mine rehabilitation anywhere between R2.9 – R3.6 billion. Harmony believes that it will realize an additional liability of R37 million for the final closure solution to close the KOSH basin safely and sustainably. Existing mines are also required to comply with the financial provision requirement, and are required to substantively review and align their financial provision in accordance with these regulations during the relevant transitional period,which was to expire in February 2019, was extended to February 2020 and, on the basis of recent correspondence from the DEFF may be set to expire in February 2021.

Harmony continues to engage with DEFF and the DMRE regarding matters relating to financial provision including the financial provision regulations, as well as the adjustment of financial provision in respect of the mining operations. There is concern about the ambiguity of the provisions and how they can be operationalized with the prescribed transitional time frames, which may result in misinterpretation, mis-application and potential disputes with DEFF. See note 25 "*Provision for environmental rehabilitation*" to our consolidated financial statements set forth beginning on page F-1.

Harmony's PNG operations are subject to the PNG Environment Act 2000, which governs the environmental permitting and regulatory aspects of mining projects. An environmental impact statement is required when projects are likely to have a significant adverse impact on the environment. This statement must be lodged with the PNG Conservation and Environment Protection Authority where, for large projects, it may be forwarded to the PNG Environment Council for review. Public consultation is an integral part of this review.

Compliance with existing or new environmental legislation, which increases the burden of compliance or the penalties for non-compliance may cause Harmony to incur further significant costs and could have a material adverse effect on our business, operating results and financial condition.

See "*Integrated Annual Report for the 20-F 2019 - Managing our Social and Environmental Impacts - Environmental management and stewardship*" on pages 80 to 102 for further discussion on the applicable legislation and our policies on environmental matters.

We face public scrutiny and are under pressure to demonstrate that we pursue sustainable development that benefits the communities and countries in which they operate

As a result of public concern about the perceived ill effects of economic globalization, businesses in general and large international companies such as Harmony, in particular, face increasing public scrutiny of their activities.

Like other mining companies, Harmony is under pressure to demonstrate that while it seeks a satisfactory return on investment for shareholders, other stakeholders including employees, communities surrounding the operations and the countries in which they operate, also benefit from their commercial activities. Such pressures tend to be particularly focused on companies whose activities are perceived to have a high impact on their social and physical environment. The potential consequences of these pressures include reputational damage, legal suits and social spending obligations and investor withdrawal.

Existing and proposed mining operations are often located at or near existing towns and villages, natural water courses and other infrastructure. Mining operations must therefore be designed to mitigate and/or manage their impact on such communities and the environment. As the impacts of dust generation, waste storage, water quality or shortages may be immediate and directly adverse to those communities, poor environmental management practices, or, in particular, adverse changes in the supply or quality of water can result in community protest, regulatory sanctions or ultimately in the withdrawal of community and government support for company operations. Mining operations must therefore be designed to minimize their impact on such communities and the environment, including by changing mining plans, by modifying operations or by relocating the affected people to an agreed location. Responsive measures may also include restoration of the livelihoods of those impacted. In addition, we are obliged to comply with the terms and conditions of all the mining rights we hold.

At our PNG operations, we are required under the PNG Mining Act of 1992 to pay landowners regulated levels of compensation for any adverse impact the mining operation may have. In addition, under a negotiated memorandum of agreement, the government of PNG distributes to landowner groups an agreed share of the royalties paid to the PNG government in respect of our mining operation.

All new mining leases are subject to agreed national content and social performance plans addressing various aspects of employment and other community support.

Delays in projects attributable to a lack of community support or community-related disruptions or delays can translate directly into a decrease in the value of a project or into an inability to bring the project to, or maintain, production. The cost of implementing these and other measures to support sustainable development could increase capital expenditure and operating costs and therefore impact Harmony's reputation, business, operational results and financial condition.

Compliance with emerging climate change regulations could result in significant costs for Harmony, and climate change may present physical risks to our operations

Greenhouse gases ("**GHGs**") are emitted directly by Harmony's operations and indirectly as a result of consuming electricity generated by external utilities. Emissions from electricity consumption are indirectly attributable to Harmony's operations. There are currently a number of international and national measures to address or limit GHG emissions in various phases of discussion or implementation, including the Kyoto Protocol, the Copenhagen Accord and the Paris Agreement, a treaty negotiated at the Conference of the Parties of the UN Framework Convention on Climate Change in Paris in December 2015 (the "**Paris Agreement"**). The Paris Agreement, which requires developed countries to set targets for emissions reductions, came into force on November 4, 2016. South Africa ratified the Paris Agreement on April 22, 2016 and endorsed its nationally-determined contribution, which requires that GHG emissions in South Africa peak in 2020 to 2025, plateau from 2025 to 2035 and decline from 2036 onwards. PNG ratified the Paris Agreement on September 21, 2016. Additional measures addressing GHG emissions may be implemented at national or international levels in various countries.

On February 19, 2019, South Africa's National Assembly adopted the draft Carbon Tax Bill, which was sent to the NCOP to be debated and voted upon and then to the President. The Bill became law and came into effect on June 1, 2019 upon the President's assent and signature as the Carbon Tax Act, 15 of 2019 (**"Carbon Tax Act"**).

Gas emissions reported to the DEFF for a company's National Greenhouse Gas Emission Reporting submission will be taxed at a base value of R120 per tonne of carbon dioxide equivalent. As such, Promethium Carbon has estimated Harmony's tax liability due to the carbon tax.

The National Greenhouse Gas Emission Reporting Regulation stipulates that any company with emissions above a specific threshold must report its emissions to DEFF. These thresholds are stipulated in the regulations for various activities.

In addition, the DEFF published the Climate Change Bill, dated June 8, 2018 ("**2018 Climate Change Bill**"), for public consultation in response to the international commitments made under the Paris Agreement. It aims to address climate change in the long-term by aiming for a climate resilient and low carbon economy in South Africa.

The carbon tax has been designed to fix liability on the person who conducts an activity in South Africa that results in GHG emissions above a certain threshold. The carbon tax design requires the calculation of liability to be based on the sum of GHG emissions, which result from fuel combustion, industrial processes and fugitive emissions. Taxpayers must determine emissions in accordance with the reporting methodology approved by the DEFF. The tax will be phased in over time. The first phase, which ends in 2022, is designed to be revenue-neutral in terms of its aggregated impact, given the complementary tax energy incentives and reduction or credit for the current electricity levy.

At this time it is not possible to determine the ultimate impact of the Carbon Tax Act on the Company. Nevertheless, Harmony has set its internal carbon price (for the South African operations) to match that of the proposed carbon tax. Harmony is at risk due to potential pass through costs from its suppliers in the short term from increased fuel prices. The carbon tax on liquid fuels will be imposed at the source. It is estimated that the increased fuel price would be R0.13/liter. This will have an impact on Harmony's operational expenses.

South African companies are faced with a changing landscape in terms of non-financial risks like climate change. In the past these risks were only reported, and mitigation strategies were voluntary. However, with the new Carbon Tax Act, government is attempting to curb greenhouse gas emissions with the “polluter pays principle”. Based on published legislation, commentary and governmental information, carbon tax poses a low cost to Harmony until December 31, 2022. From phase 2 onwards, carbon tax might also affect the price of electricity. The Carbon Tax Act is still unclear on various aspects including on how electricity costs will be impacted. However, it is expected that the cost of electricity impact Harmony in phase 2 between R100 million to R 500 million per from fiscal year 2023 to fiscal year 2030.

The Minister of Environmental Affairs as the time noted that government would actively consult with industry on developing carbon budgets to identify an “optimal combination” of mitigation actions to strike a balance between South Africa's socio-economic imperatives, especially creating and preserving jobs, as well as the need to manage climate change impacts and contribute to global efforts to stabilize GHG concentrations.

From a medium and long-term perspective, we are likely to see an increase in costs relating to our energy-intensive assets and assets that emit significant amounts of GHG as a result of regulatory initiatives in South Africa. These regulatory initiatives will be either voluntary or mandatory and may impact our operations directly or by affecting our suppliers or customers. These costs may include, among others, emission measurement and reduction, audit processes and human resource costs. Non-compliance with statutory initiatives may result in monetary liabilities. Insurance premiums may increase and our position relative to industry competitors may change. Assessments of the potential impact of future climate change regulation are still uncertain, given the wide scope of potential regulatory change in South Africa. Such regulatory initiatives and related costs could have a material adverse effect on our business, operating results and financial condition.

PNG's national office of climate change and environmental sustainability is studying the potential for future economic growth to be driven by renewable energy. PNG has adopted a climate change policy but implementation actions to date are very limited. The implications of the climate change policy on Harmony's operations in PNG have not yet been established but are not expected to have significant impacts.

The largest portion of GHG emissions is predominantly electricity-related, with electricity expenditure amounting to approximately 15% of Harmony's cash costs in South Africa. While cost management is clearly a strategic issue for Harmony, of even greater importance is that energy supply be constant and reliable, given the implications of loss of energy on both production and health and safety. GHG emissions regulations, which would increase the price of energy, will affect Harmony significantly, as will regulation that stipulates emission thresholds, or sets technology standards that may result in insecure energy supply. Already certain compliance costs from power suppliers are being passed on to the Group in the form of price increases. For instance, in South Africa since 2009, Harmony has paid a levy of R0.02 - R0.035 per kilowatt hour for electricity generated by fossil fuels. In the 2015 budget speech the Minister of Finance proposed an increase in the electricity levy by an additional R0.02 per kilowatt hour. There has not been any further proposal since. The implementation of the proposed increase in the electricity levy is still to be determined. These levies may increase over time and additional levies may be introduced in future in South Africa or PNG, which could result in a significant increase in our costs.

In addition, Harmony's operations could be exposed to a number of physical risks from climate change, such as changes in rainfall rates, rising sea levels, reduced water availability, higher temperatures and extreme weather events. Events or conditions such as flooding or inadequate water supplies could disrupt our mining and transport operations, mineral processing and rehabilitation efforts, create resource or energy shortages or damage our property or equipment and increase health and safety risks on site. Such events or conditions could have other adverse effects on our workforce and on the communities around our mines, such as an increased risk of food insecurity, water scarcity and prevalence of disease, all of which could have a material adverse effect on our results of operations and financial condition

See *"Integrated Annual Report for the 20-F 2019 - Managing our Social and Environmental Impacts - Environmental management and stewardship"* on pages 80 to 102 for disclosure regarding our GHG emissions.

Our operations in South Africa are subject to water use licenses, which could impose significant costs

Under South African law, Harmony's local operations are subject to water use licenses that govern each operation's water use. These licenses require, among other things, that mining operations achieve and maintain certain water quality limits for all water discharges, where these apply. Our South African operations are lawful users with existing water permits in terms of the Water Act, 54 of 1954 with some having been issued new order water use licenses. Nevertheless, the South African operations have applied to the relevant regional directors for water use licenses in terms of the NWA. Submissions were made as early as 2003 and Harmony has been working closely with the regional directors in the review process. A few operations have been issued with draft licenses for review and iteration. Kusasalethu and Kalgold received their water use licenses, subject to certain onerous conditions, which we have applied to be amended and are hopeful will be amended in our favor. For the remaining licenses we anticipate that the conditions of the licenses may require Harmony to consider and implement alternate water management measures that may have a significant cost implication for our business. We intend to work collaboratively with the regional departments to reach an amicable outcome that is in the best interest of the licensee and the national water resource, as any failure on Harmony's part to achieve or maintain compliance with the requirements of these licenses for any of its operations may result in Harmony being subject to penalties, fees and expenses or business interruption due to revoked water licenses. Any of these could have a material effect on our business, operating results and financial condition.

There is a possibility of the South African National Treasury and Department of Water and Sanitation instituting an environmental levy for the management of acid mine drainage ("**AMD**") in future. AMD is a common occurrence on the gold mines of the Witwatersrand Basin. AMD is caused by the exposure of sulfide-rich ore to oxygen and water during the processes of mining, crushing, mineral recovery, and storage of the various waste streams. Any such environmental levy could have a material effect on our business, operating results and financial condition. In addition, the occurrence of AMD at any of Harmony's mines could affect its ability to comply with its water use license requirements.

See *"Integrated Annual Report for the 20-F 2019 - Managing our Social and Environmental Impacts - Environmental management and stewardship"* on pages 80 to 102.

We may have exposure to rehabilitate potential groundwater pollution, which may include salination, and radiation contamination that may exist where we have operated or continue to operate; implementation of the financial provision regulations may require us to include provision in our financial statements for rehabilitation

Due to the interconnected nature of mining operations at Doornkop, Kusasalethu and Moab Khutsong, any proposed solution for potential flooding and decant risk posed by deep groundwater needs to comprise a regional solution supported by all mines located in the goldfields and the government in the event of legacy issues. As a result, the DMRE and affected mining companies are involved in developing a regional mine closure strategy. In view of limited current information, no reliable estimate can be made for any possible obligations or liabilities for Harmony, which could be material and have an adverse impact on Harmony's financial condition.

The financial provision regulations under NEMA published in November 2015 and the proposed revisions and amendments to these regulations the most recent of which was published in May 2019 are likely to affect the amount of financial provision that is set aside for rehabilitation of a mine. These regulations place an emphasis on post-closure water pumping and treatment and the need for upfront provision to be set aside for the management of these types of impacts. Among other things, the financial provision regulations:

- require that preliminary and general costs are included in the financial provision calculations;
- impose VAT (at 15%) on the financial provision calculations;
- prohibit the withdrawal of trust funds for concurrent rehabilitation (even in circumstances where the financial provision exceeds the evaluated environmental liability); and
- require that funds are retained in perpetuity by the Minister of Minerals and Energy for latent and residual environmental impacts notwithstanding the granting of a closure certificate.

Compliance with the proposed financial provision regulations will result in a significant increase in the required financial provision required by mining companies. As a result, the financial provision regulations have been strongly opposed by the mining industry. In response to this opposition, revisions and amendments to these regulations have been proposed and DEFF extended the date by which mining companies must comply with the financial provision regulations from February 2019 to February 2020, which date may be extended again to February 2021, pending agreement of amendments to the current regulations and approval by the Minister, as the amended regulations are still in draft form. Harmony is implementing the following steps to ensure that funds are available to top up its financial provision, if necessary:

- facilitating concurrent rehabilitation;
- re-purposing infrastructure; and
- accelerated mine closure rehabilitation where operations have reached the end of its geological life.

Should the regulator require the financial provision regulations be implemented in 2020 and/or should the financial provision regulations, as they may be amended, remain onerous, MCSA has indicated that it will exercise its legal options on these regulations on behalf of the mining industry.

Currently, no provision for any potential liability has been made in our financial statements under the financial provision regulations. If provision needs to be made, and is substantial, this could have a material adverse effect on our results of operations and financial condition.

See *“Integrated Annual Report for the 20-F 2019 - Managing our Social and Environmental Impacts - Environmental management and stewardship”* on pages 80 to 102.

The use of contractors at certain of Harmony's operations may expose Harmony to delays or suspensions in mining activities and increases in mining costs

Harmony uses contractors at certain of its operations to mine and deliver ore to processing plants as well as for other purposes. At mines employing mining contractors, contracting costs represent a significant proportion of the total operating costs of these operations and the Company does not own all of the mining equipment.

Harmony’s operations could be disrupted, resulting in additional costs and liabilities, if the mining contractors at affected mines have financial difficulties, if a dispute arises in renegotiating a contract, or if there is a delay in replacing an existing contractor and its operating equipment to meet business needs at expected cost levels. Increases in contract mining rates, in the absence of associated productivity increases, will also have an adverse impact on the Company’s results of operations and financial condition.

In addition, Harmony’s reduced control over those aspects of operations which are the responsibility of contractors, their failure to comply with applicable legal, human rights and regulatory requirements, or their inability to manage their workforce or provide high quality services or a high level of productivity could adversely affect Harmony’s reputation, results of operations and financial condition, and may result in the Company incurring liability to third parties due to the actions of contractors, which could have a material adverse effect on Harmony's business, operating results and financial condition.

Our jointly-controlled assets may not comply with our standards

Harmony does not have full management control over some of its assets, which are controlled and managed by joint venture participants in accordance with the provisions of their joint venture arrangements. The control environment of these assets may not align with our management and operating standards, controls and procedures. Failure to adopt equivalent standards, controls and procedures could lead to higher costs and reduced production, which could adversely affect our results of operations and reputation.

Harmony is subject to the risk of litigation, the causes and costs of which are not always known

Harmony is subject to litigation, arbitration and other legal proceedings arising in the normal course of business and may be involved in disputes that may result in litigation. The causes of potential future litigation cannot be known and may arise from, among other things, business activities, environmental and health and safety concerns, share price volatility or failure to comply with disclosure obligations. The results of litigation cannot be predicted with certainty but could include costly damage awards or settlements, fines, and the loss of licenses, concessions, or rights, among other things.

In the event of a dispute, Harmony may be subject to the exclusive jurisdiction of foreign courts or may not be successful in subjecting foreign persons to the jurisdiction of courts in South Africa. An adverse or arbitrary decision of a foreign court could have a material adverse impact on Harmony's financial performance, cash flow and results of operations.

Harmony is subject to numerous claims, including class actions or similar group claims relating to silicosis and other occupational health diseases, and could be subject to similar claims in the future. A settlement in the silicosis class action claims has been reached and a provision for silicosis has been made. A provision of R942 million has been recognized at June 30, 2019 for Harmony's potential cost to settle the silicosis and tuberculosis class actions that have been instituted against it in South Africa. Significant judgment was applied in estimating the costs that will be incurred to settle the silicosis class action claims and related expenditure and the final costs may differ from current cost estimates. Management believes the assumptions are appropriate, however changes in the assumptions may materially affect the provision and final costs of settlement. There can be no assurance that the ultimate resolution of this matter will not result in losses in excess of the recorded provision and the ultimate settlement may have a material adverse effect on Harmony's financial position. For further information, see Item 8: "*Financial Information - Consolidated Statements and Other Financial Information - Legal Proceedings*" and "*Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being-maintaining stability in our workplace - Safety and health*" on pages 33 to 49 for further information. See note 26 "*Provision for silicosis settlement*" to our consolidated financial statements set forth beginning on page F-1.

It is possible that additional class actions and/or individual claims relating to silicosis and/or other occupational health diseases will be filed against Harmony in the future. Harmony will defend all and any subsequent claims as filed on their merits. Should Harmony be unsuccessful in defending any such claims, or in otherwise favorably resolving perceived deficiencies in the national occupational disease compensation framework that were identified in the earlier decision by the Constitutional Court, such matters would have an adverse effect on its financial position, which could be material.

Should Harmony be unable to resolve disputes favorably or to enforce its rights, this may have a material adverse impact on our financial performance, cash flow and results of operations.

Breaches in our information technology security processes and violations of data protection laws may adversely impact the conduct of our business activities (national and international)

Harmony maintains global information technology ("**IT**") and communication networks and applications to support our business activities. Our extensive IT infrastructure and network may experience service outages that may adversely impact the conduct of our business activities. This includes potential cybercrime and disruptive technologies. The information security management system ("**ISMS**") protecting Harmony's IT infrastructure and network may not prevent future malicious action, including denial-of-service attacks, or fraud by individuals, groups or organizations resulting in the corruption of operating systems, theft of commercially sensitive data, including commercial price outlooks, mergers and acquisitions and divestment transactions, misappropriation of funds and disruptions to our business operations, the occurrence of any of which could have a material adverse effect on our business and results of operations.

The interpretation and application of consumer and data protection laws in South Africa, the United States and elsewhere are uncertain and evolving. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with Harmony's data practices. Complying with these various laws is difficult and could cause the company to incur substantial costs or require it to change its business practices in a manner adverse to its business.

South Africa's upcoming data protection legislation, the Protection of Personal Information Act, 4 of 2013 ("**POPIA**") is enacted but not yet in force. Only provisions enabling the appointment of the Information Regulator to regulate, perform functions and exercise powers in connection with POPIA and the making of regulations are in force. Once a commencement date has been announced, organizations will have 12 months within which to become compliant with POPIA. Failure to comply with POPIA may lead to penalties and fines between R1 million - R10 million.

On May 25, 2018 the General Data Protection Regulation ("**GDPR**") came into force. The GDPR is an EU-wide framework for the protection of personal data of EU based individuals. The GDPR enhances existing legal requirements through several new rules, including stronger rights for data subjects and mandatory data breach notification requirements, and increases penalties for non-compliance. Failure to comply with the GDPR may lead to a fine of up to four percent of a company's worldwide turnover or up to €20 million.

The failure of a tailings storage facility could negatively impact Harmony's business, reputation, operating results and financial condition

Mining companies face inherent risks in their operation of tailings storage facilities. Tailings storage facilities are engineered structures built for the containment of the uneconomical milled ore residue and water, known as tailings. The use of tailings storage facilities exposes Harmony to certain risks, including the failure of a tailings dam due to events such as high rainfall, overtopping of the dam, piping or seepage failures. The potential occurrence of a dam failure at one of Harmony's tailings storage facilities could lead to the loss of human life and extensive property and environmental damage.

Harmony maintains measures to manage its dams' safety, including compliance with the International Council on Mining and Metals' Tailings Governance Position Statement, Harmony's Code of Practice and undertakes routine reviews by independent consulting companies. Although Harmony has a tailings storage facility management system, the effectiveness of its designs, construction quality or regular monitoring cannot be guaranteed throughout its operations and it cannot be guaranteed that these measures will prevent the failure of one or more of its tailings dams or that such potential failure will be detected in advance. In addition, although Harmony generally requires its partners to maintain such systems, we cannot guarantee that our partners maintain similar safety precautions or monitoring systems on their tailings storage facilities. There is no assurance that any safety measures implemented will prevent the failure of any tailings storage facility.

The failure of a tailings storage facility will lead to multiple legal proceedings and investigations, which could include securities class actions, criminal proceedings and public civil actions (against Harmony or individuals) for significant amounts of damages. Furthermore, the elimination of the "conventional" practice of storing wet tailings (e.g. alternatively filtering, "dry" stacking and compacting the tailings) could require the research and development of new technologies, which could lead to additional large expenditures. As a result of the dam failure in Brazil in 2015 and 2019, and Canada in 2014 (neither of which are associated with Harmony) or as a result of future dam failures, additional environmental and health and safety laws and regulations may be forthcoming globally, including in jurisdictions where Harmony operates, which may ban the storage of wet tailings completely. In addition, changes in laws and regulations may impose more stringent conditions in connection with the construction of tailings dams, particularly with respect to upstream tailings dams which could also be made illegal, the licensing process of projects and operations and increased criminal and civil liability for companies, officers and contractors.

Furthermore, the unexpected failure of a dam at a tailings storage facility could lead to the need for a large expenditure on contingencies and on recovering the regions and people affected, extensive and permanent environmental damage and the payment of penalties, fines or other money damages. The occurrence of any of such risks could have a material adverse effect on Harmony's business, operating results and financial condition.

The upgrade of an integrated Enterprise Resource Planning (ERP) system could have an adverse effect on Harmony’s results of operations and financial condition

The upgrade and operation of an ERP system is an inherently high-risk initiative due to the potential for cost and time overruns. In addition, if Harmony experiences difficulties with the upgrade and operation of the system, the company’s ability to report and manage technical and financial information could be compromised, which could have an adverse effect on the company’s results of operations and financial condition. Harmony is currently in the project initiation phase with go-live planned towards the end of the 2020 calendar year.

Investors in the United States may have difficulty bringing actions, and enforcing judgments, against us, our directors and our executive officers based on the civil liabilities provisions of the federal securities laws or other laws of the United States or any state thereof

We are incorporated in South Africa. Each of our directors and executive officers (and our independent registered public accounting firm) resides outside the United States. Substantially all of the assets of these persons and substantially all our assets are located outside the United States. As a result, it may not be possible for investors to enforce a judgment against these persons or ourselves obtained in a court of the United States predicated upon the civil liability provisions of the federal securities or other laws of the United States or any state thereof. A foreign judgment is not directly enforceable in South Africa, but constitutes a cause of action which may be enforced by South African courts provided that:

- the court that pronounced the judgment had jurisdiction to entertain the case according to the principles recognized by South African law with reference to the jurisdiction of foreign courts;
- the judgment is final and conclusive;
- the judgment has not lapsed;
- the recognition and enforcement of the judgment by South African courts would not be contrary to public policy, including observance of the rules of natural justice which require that the documents initiating the United States proceeding were properly served on the defendant and that the defendant was given the right to be heard and represented by counsel in a free and fair trial before an impartial tribunal;
- the judgment does not involve the enforcement of a penal or revenue law; and
- the enforcement of the judgment is not otherwise precluded by the provisions of the Protection of Business Act 99 of 1978, as amended, of the Republic of South Africa.

Compliance with new and changing corporate governance and public disclosure requirements adds uncertainty to our compliance policies and increases our costs of compliance

Laws, regulations and standards relating to accounting, corporate governance and public disclosure, “conflict minerals” and “responsible” gold, new SEC regulations and other listing regulations applicable to us are subject to change and can create uncertainty for companies like us. New or changed laws, regulations and standards could lack specificity or be subject to varying interpretations. Their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty on compliance matters and higher costs of compliance as a result of ongoing revisions to such governance standards.

In terms of Section 404 of the Sarbanes-Oxley Act of 2002 (the “**Sarbanes-Oxley Act**”), we are required to furnish a report by our management on our internal control over financial reporting. The report in this annual report contains, among other matters, an assessment of the effectiveness of our internal control over financial reporting as of the end of the fiscal year, including a statement as to whether or not our internal controls over financial reporting are effective. If we fail to maintain the adequacy of our internal controls, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal control over financial reporting in accordance with the Sarbanes-Oxley Act. The requirement to evaluate and report on our internal controls also applies to companies that we may acquire and therefore, this assessment may be complicated by any future acquisitions. While we continue to dedicate resources and management time to ensuring that we have effective controls over financial reporting, failure to achieve and maintain an effective internal control environment could have a material adverse effect on the market’s perception of our business and our stock price. See Item 15: *“Controls and Procedures”* for management’s assessment as of June 30, 2019. In addition to management’s assessment of internal controls over financial reporting, we are required to have our independent registered public accounting firm publicly disclose their conclusions regarding the effectiveness of Harmony’s internal controls over financial reporting.

We are committed to maintaining high standards of corporate governance and public disclosure, and our efforts to comply with evolving laws, regulations and standards in this regard have resulted in, and are likely to continue to result in, increased general and administrative expenses.

Failure to comply with laws, regulations, standards, contractual obligations whether following a breach or breaches in governance processes or fraud, bribery and corruption may lead to regulatory penalties, loss of licenses or permits, negative effects on our reported financial results, and adversely affect our reputation

Harmony operates in multiple jurisdictions, including those with less developed political and regulatory environments, and within numerous and complex frameworks. Our governance and compliance processes may not prevent potential breaches of law, accounting principles or other governance practices.

Harmony's Code of Conduct and Behavioral Code, among other policies, standards and guidance, and training thereon may not prevent instances of unethical or unlawful behavior, including bribery or corruption, nor do they guarantee compliance with legal and regulatory requirements, and breaches may not be detected by management.

Sanctions for failure by the Company or others acting on its behalf to comply with these laws, regulations, standards and contractual obligations could include fines, penalties, imprisonment of officers, litigation, and loss of operating licenses or permits, suspensions of operations, negative effects on Harmony's reported financial results and may damage the Company's reputation. Such sanctions could have a material adverse impact on the Company's financial condition and results of operations.

Compliance with "conflict minerals" and "responsible" legislation and standards could result in significant costs

Stringent standards relating to "conflict minerals" and "responsible" gold that include the US Dodd-Frank Act of 2010, EU Regulation 2017/821 on supply chain due diligence obligations for self-certification for EU importers of gold originating from conflict-affected and high-risk areas, the Organization for Economic Cooperation and Development Due Diligence Guidelines for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, the World Gold Council Conflict Free Gold Standard and the London Bullion Market Association Responsible Gold Guidance have been introduced.

Any such legislation and standards may result in significant costs to ensure and demonstrate compliance (particularly where standards change rapidly or lack certainty due to court challenges), and may complicate the sale of gold emanating from certain areas. The complexities of the gold supply chain, especially as they relate to "scrap" or recycled gold, and the fragmented and often unregulated supply of artisanal and small-scale mined gold are such that there may be significant uncertainties at each stage in the chain as to the provenance of the gold. As a result of the uncertainties in the process, the costs of due diligence and audit, or the reputational risks of defining their product or a constituent part as containing a "conflict mineral" may be too burdensome for the company's customers. Accordingly, manufacturers may decide to switch supply sources or to substitute gold with other minerals not covered by the initiatives. This could have a material negative impact on the gold industry, including on our results of operations and financial condition.

Investors may face liquidity risk in trading our ordinary shares on the JSE Limited

The primary listing of our ordinary shares is on the JSE Limited. Historically, the trading volumes and liquidity of shares listed on the JSE have been low relative to other major markets. The ability of a holder to sell a substantial number of our ordinary shares on the JSE in a timely manner, especially in a large block trade, may be restricted by this limited liquidity. See Item 9: *"The Offer and Listing-Markets-The Securities Exchange in South Africa."*

Sales of large quantities of our ordinary shares and ADSs, or the perception that these sales may occur, could adversely affect the prevailing market price of such securities

The market price of our ordinary shares or ADSs could fall if large quantities of ordinary shares or ADSs are sold in the public market, or there is a perception in the marketplace that such sales could occur. Subject to applicable securities laws, holders of our ordinary shares or ADSs may decide to sell them at any time. The market price of our ordinary shares or ADSs could also fall as a result of any future offerings it makes of ordinary shares, ADSs or securities exchangeable or exercisable for its ordinary shares or ADSs, or the perception in the marketplace that these sales might occur. We may make such offerings of additional ADS rights, letters of allocation or similar securities from time to time in the future.

Shareholders outside South Africa may not be able to participate in future issues of securities (including ordinary shares) carried out by or on behalf of Harmony

Securities laws of certain jurisdictions may restrict Harmony's ability to allow participation by certain shareholders in future issues of securities (including ordinary shares) carried out by or on behalf of Harmony. In particular, holders of Harmony securities who are located in the United States (including those who hold ordinary shares or ADSs) may not be able to participate in securities offerings by or on behalf of Harmony unless a registration statement under the Securities Act is effective with respect to such securities or an exemption from the registration requirements of the Securities Act is available. Securities laws of certain other jurisdictions may also restrict Harmony's ability to allow the participation of all holders in such jurisdictions in future issues of securities carried out by Harmony. Holders who have a registered address or are resident in, or who are citizens of, countries other than South Africa should consult their professional advisors as to whether they require any governmental or other consents or approvals or need to observe any other formalities to enable them to participate in any offering of Harmony securities.

US securities laws do not require Harmony to disclose as much information to investors as a US issuer is required to disclose, and investors may receive less information about the company than they might otherwise receive from a comparable US company

Harmony is subject to the periodic reporting requirements of the SEC and the NYSE that apply to "foreign private issuers". The periodic disclosure required of foreign private issuers under applicable rules is more limited than the periodic disclosure required of US issuers. Investors may receive less timely financial reports than they otherwise might receive from a comparable US company or from certain of the Company's peers in the industry. This may have an adverse impact on investors' abilities to make decisions about their investment in Harmony.

As we have a significant number of shares that may be issued in terms of the employee share schemes, our ordinary shares are subject to dilution

We have an active employee share plan that came into effect in 2006. Our shareholders have authorized up to 60,011,669 of the issued share capital to be used for this plan. We have recently approved a Deferred Share Plan as part of our new Total Incentive Plan that will came into effect in 2020. Our shareholders have authorized up to 25,000,000 shares of the issued share capital to be used for this plan.

As a result, shareholders' equity interests in us are subject to dilution to the extent of the potential future exercises of the options through these share plans.

We may not pay dividends or make similar payments to our shareholders in the future

Harmony's dividend policy is to pay cash dividends only if funds are available for that purpose. Whether funds are available depends on a variety of factors, including the amount of cash available, our capital expenditures and other current or future anticipated cash requirements existing at the time. Under South African law, we are only entitled to pay a dividend or similar payment to shareholders if we meet the solvency and liquidity tests set out in the Companies Act 71 of 2008 (as amended) including its Regulations (the "**Companies Act**") and our current Memorandum of Incorporation. Cash dividends or other similar payments may not be paid in the future.

On April 1, 2012, a dividends tax ("**Dividends Tax**") was introduced at a rate of 15% (increased to 20% effective from February 22, 2017) on dividends declared by South African companies to beneficial shareholders borne by the shareholder receiving the dividend. This replaced Secondary Tax on Companies. Although the substitution of Secondary Tax on Companies with Dividends Tax may reduce the tax payable on our South African operations, thereby increasing distributable earnings, the withholding tax will generally reduce the amount of dividends or other distributions received by shareholders.

In addition, Harmony's foreign shareholders face investment risk from currency exchange rate fluctuations affecting the market value of any dividends or distributions paid by the Company.

ITEM 4. INFORMATION ON THE COMPANY

A. HISTORY AND DEVELOPMENT OF THE COMPANY

The information set forth under the headings:

- "-*About this report*" on pages 4;
- "-*Corporate profile*" on pages 6;
- "-*Creating and sharing value*" on page 8;
- "-*Our strategy*" on page 14;
- "-*Our business context*" on page 23;
- "-*Delivering profitable ounces - Operational performance*" on pages 57 to 62; and
- "-*Delivering profitable ounces - Exploration and projects*" on pages 62 to 67;

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference. Also see note 20 *"Investments in Associates"* and note 21 *"Investment in Joint Operations"* of our consolidated financial statements, set forth beginning on page F-1.

In the 2019 fiscal year, we did not receive any public takeover offers by third parties or make any public takeover offers in respect of other companies' shares.

The SEC maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC (*www.sec.gov*). As a foreign private issuer, we are exempt from the rules under the Exchange Act that prescribe the furnishing and content if proxy statements to shareholders. Our corporate website is *www.harmony.co.za*.

Recent Developments

Developments since June 30, 2019

Since the end of fiscal 2019, the following significant events have occurred:

- On July 26, 2019, the Johannesburg High Court approved a R5.2 billion settlement of the silicosis and tuberculosis class action suit between the Working Group and lawyers representing affected mineworkers. After a mandatory three-month period, during which potential beneficiaries can opt out of the settlement agreement, the settlement funds will be used to establish the Tshiamiso Trust. The trust will track and trace class members, process all submitted claims, including the undertaking of benefit medical examinations, and pay benefits to eligible claimants. The approval does not impact on the amount of the provision recognized. See note 26 "*Provision for Silicosis Settlement*" to our consolidated financial statements set forth beginning on page F-1.
- On August 19, 2019, Harmony and a syndicate of local and international lenders entered into a loan facility agreement which was jointly arranged by Nedbank Limited and ABSA Bank Limited, comprising a revolving credit facility of up to US$200 million and a term loan of up to US$200 million. The tenor of the US$400 million revolving credit and term loan facility is three years with an option to extend by another one year. The rate for the term loan is LIBOR plus 3.05% and the rate for the revolving credit facility is LIBOR plus 2.90%. Conditions precedent were fulfilled on September 26, 2019 and financial close was on October 2, 2019, with US$5 million (R76 million) being drawn on, resulting in an outstanding balance of US$300 million (R4.6 billion) and undrawn balance of US$100 million (R1.4 billion).

B. BUSINESS OVERVIEW

The information set forth under the headings:

- *"-About this report"* on pages 4;
- "-*Creating and sharing value"* on page 8;
- "-*Our strategy*" on page 14;
- -"*Operating business context*" on page 23;
- "-*Stakeholder engagement"* on page 24;
- *"-Ensuring employee safety and well-being - maintaining stability in our workforce - Safety and health"* on pages 33 to 49;
- *"-Ensuring employee safety and well-being - maintaining stability in our workforce - Employee relations*" on pages 49 to 56;
- *"-Managing our Social and Environmental Impacts- Environmental management and stewardship"* on pages 80 to 102;
- *"-Delivering profitable ounces - Operational performance"* on pages 57 to 62; and
- *"-Delivering profitable ounces - Exploration and projects"* on pages 62 to 67;

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

Capital Expenditures

Capital expenditures for all operations and capitalized exploration incurred for fiscal 2019 amounted to R5,037 million, compared with R4,571 million in fiscal 2018 and R3,890 million in fiscal 2017. During fiscal 2019, capital at PNG accounted for 39% of the total, with Tshepong operations accounting for 22%, Moab Khotsong for 11%, Target 1, Doornkop and Kusasalethu each accounting for 6% and Joel accounting for 4% of the total. During fiscal 2018, capital expenditure at PNG accounted for 41% of the total, with Tshepong operations accounting for 22%, Target 1 for 7% and Joel, Doornkop and Kusasalethu each accounting for 6% of the total.

The focus of our capital expenditures in recent years has been underground development and plant improvement and upgrades. During fiscal 2019, the capital expenditure was funded from the Company's cash generated by operation. See Item 5: *"Operating and Financial Review and Prospects - Liquidity and Capital Resources".*

We have budgeted approximately R4,933 million for capital expenditures in fiscal 2020. We currently expect that our planned operating capital expenditures will be financed from operations and new borrowings as needed. Details regarding the capital expenditure for each operation is included in the table below.

	Capital expenditure budgeted for fiscal 2020 (R'million)
South Africa	
Kusasalethu	285
Doornkop	372
Tshepong operations	1,083
Moab Khotsong	730
Masimong	25
Target 1	407
Bambanani	63
Joel	164
Unisel	11
Other - surface	55
International	
Hidden Valley[1]	1,521
Total operational capital expenditure	**4,716**
Wafi-Golpu	217
Total capital expenditure	**4,933**

[1] Includes R1,061 million related to capitalized deferred stripping

Reserves

As at June 30, 2019, we have declared attributable gold equivalent proved and probable reserves of 36.5 million ounces: 17.3 million ounces gold in South Africa and 19.2 million gold and gold equivalent ounces in PNG. In instances where individual deposits may contain multiple valuable commodities with a reasonable expectation of being recovered (for example gold and copper in a single deposit) Harmony computes a gold equivalent to more easily assess the value of the deposit against gold-only mines. Harmony does this by calculating the value of each of the commodity, then dividing the product by the price of gold. For example, the gold equivalent of a gold and copper deposit would be calculated as follows: ((gold ounces x gold price per ounce) + (copper pounds x copper price per pound)) / gold price per ounce. All calculations are done using metal prices as stipulated in the discussion below. Harmony assumes a 100% metallurgical recovery in its calculations unless otherwise stated. The year-on-year negative variance in mineral reserves is due to the following reasons:

- normal depletion of 1.5 million ounces; and
- a net decrease of 0.3 million ounces in reserves due to depletion.

We use the SAMREC Code, which sets out the internationally recognized procedures and standards for reporting of mineral resources and mineral reserves. We use the term “mineral reserves” herein, which has the same meaning as “ore reserves”, as defined in the SAMREC Code. In reporting of reserves, we have complied with the SEC's Industry Guide 7.

For the reporting of Mineral Reserves the following parameters were applied:

- a gold price of US$1,290 per ounce;
- an exchange rate of R14.11 per US dollar;
- the above parameters resulting in a gold price of R585,000/kg for the South African assets;
- the Hidden Valley Operation and Wafi-Golpu project in the Wafi Golpu Joint Venture used prices of US$1290/oz gold (“**Au”)**, US$17.00/oz silver (“**Ag**”), US$9.00/lb molybdenum (“**Mo**”) and US$3.00/lb copper (“**Cu**”) at an exchange rate of US$0.74 per A$;
- gold equivalent ounces are calculated assuming a US$1,290/oz Au, US$ 3.00/lb Cu and US$17.00/oz Ag with 100% recovery for all metals. These assumptions are based on those used in the 2016 feasibility study; and
- “gold equivalent” is computed as the value of the Company’s gold, silver and copper from all mineral resources/ reserves classifications divided by the price of gold. All calculations are done using metal prices as stipulated.

In order to define the proved and probable mineral reserve at our underground operations, we apply the concept of a cut-off grade. At our underground operations in South Africa, this is done by defining the optimal cut-off grade as the lowest grade at which an orebody can be mined such that the total profits, under a specified set of mining parameters, are maximized. The cut-off grade is determined using our Optimizer computer program which requires the following as input:

- the database of measured and indicated resource blocks (per operation);
- an assumed gold price which, for this mineral reserve statement, was taken as R585,000 per kilogram (gold price of US$1,290 per ounce and an exchange rate of R14.11 per US dollar);
- planned production rates;
- the mine recovery factor which is equivalent to the mine call factor ("**MCF**") multiplied by the plant recovery factor; and
- planned cash costs (cost per tonne).

Rand per tonne cash costs of the mines are historically based, but take into account distinct changes in the cost environment, such as the future production profile, restructuring, right-sizing, and cost reduction initiatives.

For the block cave reserve at Golpu (PNG), we used our consultants' proprietary tool called "Block Cave mine optimizing software computer program" to define the optimal mine plan and sequencing.

The open pit reserve at Hidden Valley (PNG) is defined by a pit design based on the optimal output from Whittle open pit optimization software.

See the table below in this section for the cut-off grades and cost per tonne for each operation.

The mineral reserves represent that portion of the measured and indicated resources above cut-off in the life-of-mine plan and have been estimated after consideration of the factors affecting extraction, including mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. A range of disciplines which includes geology, survey, planning, mining engineering, rock engineering, metallurgy, financial management, human resources management and environmental management have been involved at each mine in the life-of-mine planning process and the conversion of resources into reserves. The oreflow-related modifying factors used to convert the mineral resources to mineral reserves through the life-of-mine planning process are stated for each individual operation. For these factors, historical information is used, except if there is a valid reason to do otherwise. Owing to depth and rock engineering requirements at our underground mines, some mines design stope support pillars into their mining layouts which accounts for approximately 7% to 10% discounting. Further discounting relates to the life-of-mine extraction to provide for geological losses.

Our standard for narrow reef sampling with respect to both proved and probable reserve calculations for underground mining operations in South Africa is generally applied on a 6 meter by 6 meter grid. Average sample spacing on development ends is at 2 meter intervals in development areas. For the massive mining at the Target 1 operation, our standard for sampling with respect to both proved and probable reserves are fan drilling with "B" sized diamond drill holes (43mm core) sited at 50 meter spaced sections along twin access drives. The Kalgold opencast operations are sampled on diamond drill and reverse circulation drill spacing of no more than 25 meters on average. Surface mining at South African operations other than Kalgold involves recovering gold from areas previously involved in mining and processing, such as metallurgical plants, waste rock dumps and tailing dams (slimes and sand) for which random sampling is used.

The PNG resources are hosted in large porphyry or related mesothermal geological systems. Data is gained through diamond drilling using PQ (85.0 mm diameter) down to NQ (47.6 mm diameter) sized core. The core is cut in half, one half sampled at a maximum of 2 meter intervals and the other half stored in designated core storage facilities. Drill spacing at our Hidden Valley operations is typically on less than 20 meter centers for measured category, 20 to 40 meter centers for the indicated category and greater than 40 meters for inferred category material. Due to the nature of the Golpu porphyry mineralization, drill spacing is increased to 100 to 200 meters for indicated and greater for inferred. Assaying for gold is by fire assay and various methods are used for copper and other elements. All assays informing the resource calculation are analyzed at a National Association of Testing Authorities ("**NATA**") accredited commercial laboratory. Extensive quality assurance/quality control work is undertaken and data is stored in an electronic database.

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Our mining operations' reported total proved and probable reserves as of June 30, 2019 are set out below:

Mineral Reserves statement (Metric) as at June 30, 2019

Operations Gold	PROVED RESERVES			PROBABLE RESERVES			TOTAL RESERVES		
	Tonnes (millions)	Grade (g/t)	Gold[1] (000 kg)	Tonnes (millions)	Grade (g/t)	Gold[1] (000 kg)	Tonnes (millions)	Grade (g/t)	Gold[1] (000 kg)
South Africa Underground									
Bambanani	0.7	11.69	9	—	—	—	0.7	11.69	9
Joel	2.9	4.95	15	1.4	4.87	7	4.4	4.93	22
Masimong	0.6	4.37	3	0.0	3.53	0.1	0.7	4.33	3
Unisel	0.2	4.81	1	0.1	4.13	0.2	0.2	4.65	1
Target 1	3.2	4.38	14	1.5	4.66	7	4.6	4.47	21
Tshepong Operations	20.0	5.87	117	3.8	4.70	18	23.8	5.68	135
Doornkop	5.3	4.92	26	5.6	4.86	27	10.9	4.89	53
Kusasalethu	3.6	6.79	24	0.9	6.67	6	4.5	6.76	30
Moab Khotsong	4.0	7.29	29	2.8	9.70	28	6.9	8.28	57
Total South Africa Underground	40.6	5.86	238	16.2	5.75	93.3	56.7	5.83	331

Mineral Reserves statement (Metric) as at June 30, 2019

Operations Gold	PROVED RESERVES			PROBABLE RESERVES			TOTAL RESERVES		
	Tons (millions)	Grade (g/t)	Gold[1] (000 kg)	Tons (millions)	Grade (g/t)	Gold[1] (000 kg)	Tons (millions)	Grade (g/t)	Gold[1] (000 kg)
South Africa Surface									
Kalgold	9.4	0.87	8	8.9	1.18	11	18.4	1.02	19
Free State Surface-Phoenix	55.8	0.27	15	—	—	—	55.8	0.27	15
St Helena	108.6	0.27	29	—	—	—	108.6	0.27	29
Central Plant	—	—	—	60.5	0.27	16	60.5	0.27	16
WDR Tailings	—	—	—	565.5	0.23	127	565.5	0.23	127
Total South Africa Surface	**173.8**	**0.30**	**53**	**634.9**	**0.24**	**154**	**808.8**	**0.26**	**207**
Total South Africa	**214.4**		**290**	**651.1**		**247**	**865.5**		**537**
Papua New Guinea[2]									
Hidden Valley	2.7	0.96	3	13.6	1.91	26	16.3	1.75	29
Hamata	0.0	2.25	0.02	0.4	1.74	1	0.4	1.75	1
Golpu	—	—	—	200.0	0.86	171	200.0	0.86	171
Total Papua New Guinea	**2.8**	**0.97**	**3.02**	**213.9**	**0.93**	**198**	**216.7**	**0.93**	**201**
Total	**217.1**		**293**	**865.0**		**445**	**1,082.2**		**738**

1 Metal figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tons and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

2 Represents Harmony's attributable interest of 50%.

Note: 1 tonne = 1,000 kg = 2,204 lbs.

In addition to the gold reserves, we also report our gold equivalents for reserves for silver and copper from our PNG operations. Gold equivalent ounces are calculated assuming a US$1,290/oz for gold, US$3.00/lb copper and US$17,00/oz for silver with 100% recovery for all metals.

Gold Equivalents [2]

Silver	Proved reserves		Probable reserves		Total reserves	
	Tonnes (millions)	Gold Equivalents (kg)[1] (000)	Tonnes (millions)	Gold Equivalents (kg)[1] (000)	Tonnes (millions)	Gold Equivalents (kg)[1] (000)
Hidden Valley	2.7	1	13.6	5	16.3	6

Copper	Proved reserves		Probable reserves		Total reserves	
	Tonnes (millions)	Gold Equivalents (kg)[1] (000)	Tonnes (millions)	Gold Equivalents (kg)[1] (000)	Tonnes (millions)	Gold Equivalents (kg)[1] (000)
Golpu	—	—	200.0	390	200.0	390
Total Gold Equivalents	2.7	1	213.6	395	216.3	396
Total Harmony including gold equivalents	217.1	294	865	840	1,082.2	1,134

In addition to the gold reserves, we also report our attributable reserves for silver and copper from our PNG operations. Metal prices are assumed at US$17.00/oz for silver, US$3.00/lb for copper, and molybdenum at US$9.00/lb.

Papua New Guinea: Other[2]

Silver	Proved Reserves			Probable Reserves			Total Reserves		
	Tonnes (millions)	Grade (g/t)	Gold[1] (000 kg)	Tonnes (millions)	Grade (g/t)	Gold[1] (000 kg)	Tonnes (millions)	Grade (g/t)	Gold[1] (000 kg)
Hidden Valley	2.7	21.13	58	13.6	30.41	413	16.3	28.85	471

Copper	Tonnes (millions)	Grade (%)	Cu[1] (000 t)	Tonnes (millions)	Grade (%)	Cu[1] (000 t)	Tonnes (millions)	Grade (%)	Cu[1] (000 t)
Golpu[2]	—	—	—	200.0	1.23	2,450	200.0	1.23	2,450
South Africa									

Uranium	Tonnes (millions)	Grade (kg/t)	U308[2] (Mkg)	Tonnes (millions)	Grade (kg/t)	U308[2] (Mkg)	Tonnes (millions)	Grade (kg/t)	U308[2] (Mkg)
Moab Khotsong Underground	—	—	—	6.9	0.22	1	6.9	0.22	1

1 Metal figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tons and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

2 Represents Harmony's attributable interest of 50%.

Note: 1 tonne = 1,000 kg = 2,204 lbs

Our methodology for determining our reserves is subject to change and is based upon estimates and assumptions made by management regarding a number of factors as noted above in this section. Cost per tonne and cut-off grade per operation are as follows.

Operations gold	**Underground Operations**		**Surface and Massive Mining**	
	Cut-off grade (cmg/t)	**Cut-off cost (R/Tonne)**	**Cut-off grade (g/t)**	**Cut-off cost (R/Tonne)**
South Africa Underground				
Bambanani	2,019	3,612	—	—
Joel	803	2,157	—	—
Masimong	973	2,109	—	—
Phakisa	792	2,683	—	—
Target 1	—	—	3.80	2,123
Tshepong	650	2,495	—	—
Unisel	1,163	2,483	—	—
Doornkop	735	2,228	—	—
Kusasalethu	1,100	3,077	—	—
Moab Khotsong	1,727	3,938		
South Africa Surface				
Kalgold	—	—	0.58	445
Free State Surface	—	—	0.13	44
	Cut-off grade (%Cu)	**Cut-off cost (A$/Tonne)**	**Cut-off grade (g/t)**	**Cut-off cost (A$/Tonne)**
Papua New Guinea				
Hidden Valley	—	—	0.82	44.18
Hamata	—	—	0.85	33.24
Golpu	0.3	26	—	—

Operations silver and copper	**Underground Operations**		**Surface and Massive Mining**	
	Cut-off grade (%Cu)	**Cut-off cost (A$/Tonne)**	**Cut-off grade (g/t)**	**Cut-off cost (A$/Tonne)**
SILVER				
Papua New Guinea				
Hidden Valley	—	—	0.82	44.18
COPPER				
Papua New Guinea				
Golpu	0.3	26	—	—

Notes on Cut-off:

1) Surface and massive mining are stated in g/t (g/t is grams of metal per tonne of ore).
2) All SA underground operations are stated in cmg/t (cmg/t is the Reef Channel width multiplied by the g/t which indicates the gold content within the Reef Channel).

Notes on Cut-off cost:
Cut-off cost refers to the cost in R/Tonne or A$/Tonne to mine and process a tonne of ore.
Notes on Copper:
Cut-off is stated in % Cu.
Notes on Golpu:
Cut-off is based on 0.2% copper; molybdenum and gold mined as by-product.

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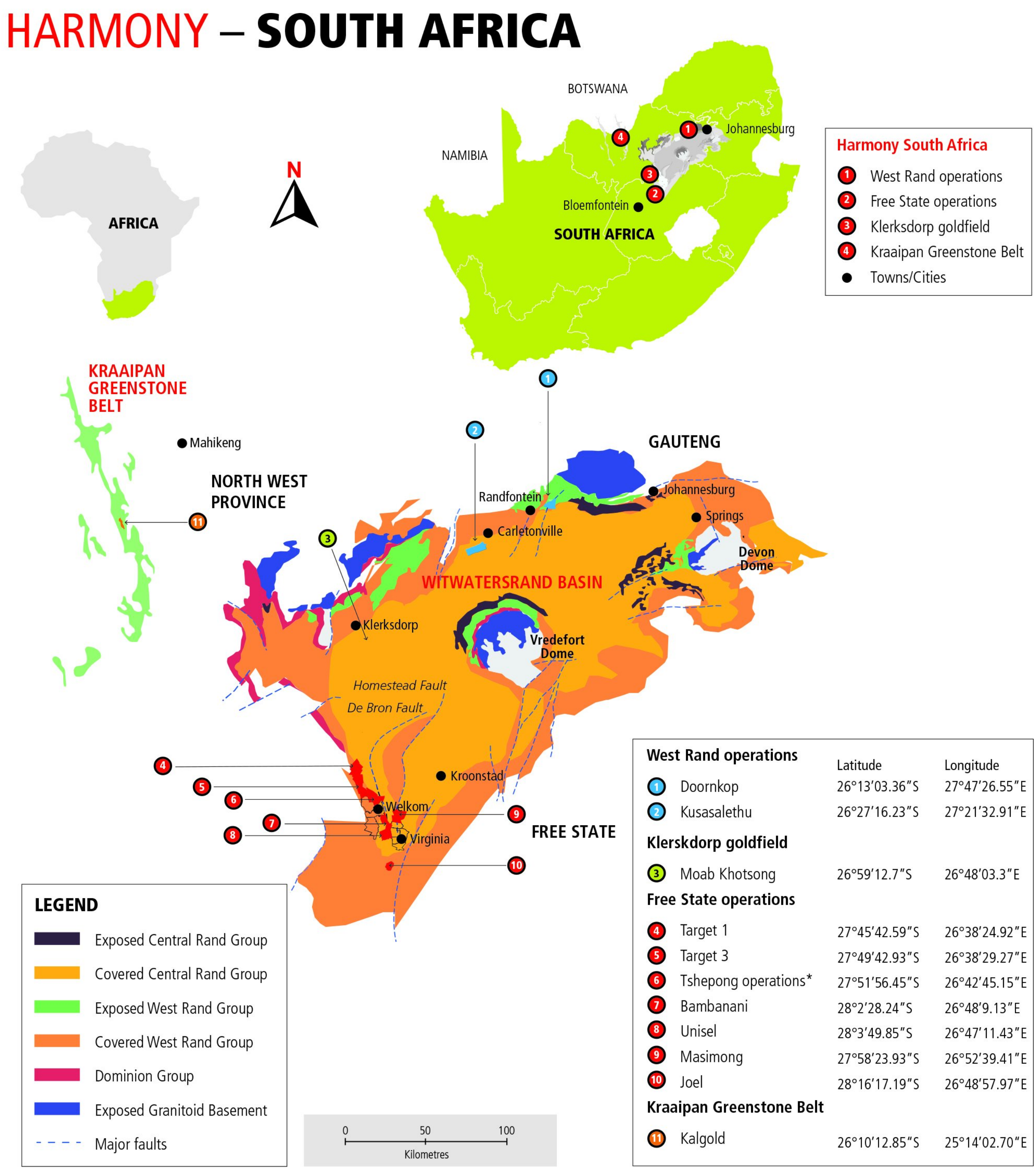
Worldwide Operations

The following is a map of our worldwide operations



West Rand operations	Latitude	Longitude
1 Doornkop	26°13′03.36″S	27°47′26.55″E
2 Kusasalethu	26°27′16.23″S	27°21′32.91″E
Klerksdorp goldfield		
3 Moab Khotsong	26°59′12.7″S	26°48′03.3″E
Free State operations		
4 Target 1	27°45′42.59″S	26°38′24.92″E
5 Target 3	27°49′42.93″S	26°38′29.27″E
6 Tshepong operations*	27°51′56.45″S	26°42′45.15″E
7 Bambanani	28°2′28.24″S	26°48′9.13″E
8 Unisel	28°3′49.85″S	26°47′11.43″E
9 Masimong	27°58′23.93″S	26°52′39.41″E
10 Joel	28°16′17.19″S	26°48′57.97″E
Kraaipan Greenstone Belt		
11 Kalgold	26°10′12.85″S	25°14′02.70″E

Projection: UTM Zone 36, Southern Hemisphere (WGS 84)

* *Tshepong operations is the combined Thsepong and Phakisa mining operation*

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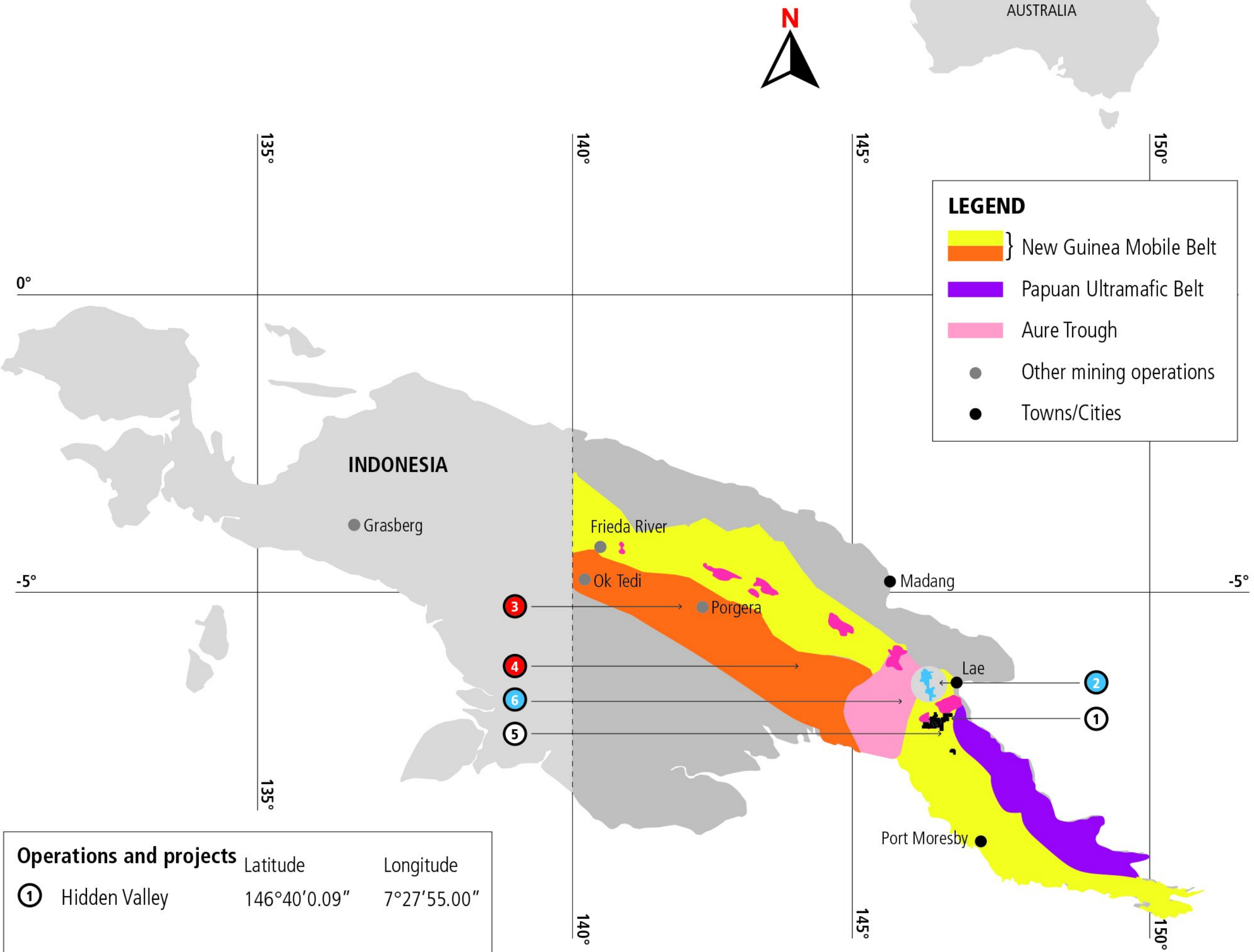
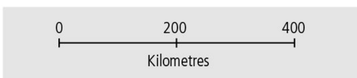
HARMONY – PAPUA NEW GUINEA



Operations and projects	Latitude	Longitude
① Hidden Valley	146°40′0.09″	7°27′55.00″
② Wafi-Golpu project (50%)	146°27′59.43″ 146°27′09.57″	6°51′35.23″ 6°51′49.68″
Exploration projects		
③ Kili Teki	142° 42′ 08″E	5° 23′ 12″S
④ Poru	144° 17′ 00″E	6° 22′ 00″S
⑤ Hidden Valley district		
⑥ Morobe Exploration Joint Venture (50%)		



Harmony equity interest 100% unless otherwise indicated

Projection: UTM Zone 54, Southern Hemisphere (WGS 84)

Geology

The major portion of our South African gold production is derived from mines located in the Witwatersrand Basin in South Africa. The Witwatersrand Basin is an elongated structure that extends approximately 300 kilometers in a northeast-southwest direction and approximately 100 kilometers in a northwest-southeast direction. It is an Archean sedimentary basin containing a six kilometer thick stratigraphic sequence consisting mainly of quartzites and shales with minor volcanic units. The majority of production is derived from auriferous placer reefs situated at different stratigraphic positions and at varying depths below the surface in three of the seven defined goldfields of the Witwatersrand Basin.

Our Papua New Guinean gold production is derived exclusively from our Hidden Valley Operation in the Morobe Province of PNG. The Hidden Valley deposit comprises low sulphidation carbonate-base metal-gold epithermal deposits within the Morobe Goldfield. In the mine area, a batholith of Morobe Granodiorite (locally a coarse grained monzogranite) is flanked by fine metasediments of the Owen Stanley Metamorphics. Both are cut by dykes of Pliocene porphyry ranging from hornblende-biotite to feldspar-quartz porphyries. A number of commonly argillic altered and gold anomalous breccias are known, including both hydrothermal and over printing structural breccias. The Hidden Valley deposit is hosted in the Moribe Granodiorite, dominated by a series of post-Miocene faults, both north and north-west trending, control the gold mineralization.

Our Wafi-Golpu project (also in the Morobe Province of PNG) encompasses the Wafi, Nambonga and Golpu deposits. The Wafi deposit comprises sedimentary/volcaniclastic rocks of the Owen Stanley Formation that surround the Wafi Diatreme and host the gold mineralization. Gold mineralization occurs associated with an extensive zone of high-sulphidation epithermal alteration overprinting porphyry mineralization and epithermal style vein-hosted and replacement gold mineralization with associated wall-rock alteration. The Nambonga deposit is a mineralized gold-copper quartz vein array and is located approximately one kilometer north of the Golpu deposit.

The Golpu deposit is a porphyry (diorite) copper-gold deposit, and is located about one kilometer northeast of the Wafi deposit. The host lithology is a diorite that exhibits a typical zoned porphyry copper alteration halo together with mineralization in the surrounding metasediment. The mineralized body can be described as a porphyry copper-gold “pipe”. The Wafi gold mineralization and alteration partially overprints the upper levels of the Golpu porphyry copper-gold mineralization.

Our Kili Teke deposit is an advanced exploration proposition located in the Hela Province of PNG. The Kili Teke deposit comprises porphyry style copper-gold mineralization hosted in a multiphase calc-alkaline dioritic to monzonitic intrusive complex. Host rocks comprise interbedded siliciclastics and limestone of the Papuan Fold Belt. Uranium-lead zircon age dating highlight Pliocene age dates in the range of 3.5 ± 0.04 Ma (million year) to 3.59 ± 0.07 Ma for emplacement of the mineralized porphyry phases. Late-mineral porphyry phases have been identified in the drilling and impact grade continuity within the deposit, where they intrude and stope out the earlier more mineralized phases. Overall the geometry of the deposit reflects a relatively steeply plunging, pipe like body, with mineralization decreasing away from the central high grade stockwork zones of copper gold mineralization. Intense marbleization and copper-gold skarn mineralization is developed around the peripheral contact with the host sequence, and variably developed skarn mineralization also occurs along internal structural and contact zones within the complex.

During fiscal 2018 a feasibility study was completed for Target 3. The study will be used in conjunction with our other projects for future decision making on capital allocation and prioritization in Harmony.

Mining and Exploration - Papua New Guinea

Harmony's wholly–owned subsidiary, Morobe Consolidated Goldfields Limited, is the 100% owner of the Hidden Valley mine in Morobe Province. The Company has obligations under compensation agreements with landowners, and various employment and training, local business development and supply and procurement obligations under a Memorandum of Agreement entered into with the State of PNG, Provincial and local governments and the landowner association.

Harmony’s wholly–owned subsidiary, Wafi Mining Limited holds a 50% interest in the Wafi–Golpu Project, through its equal share in various exploration licenses held together with its co-participant in the Wafi-Golpu Joint Venture, Newcrest PNG 2 Limited. Both companies have obligations under compensation agreements with landowners.

On August 25, 2016, the joint venture participants submitted an application for a Special Mining Lease (SML 10) under section 35 of the PNG Mining Act 1992, and various other associated mining tenements. A feasibility study update and revised proposals for development was lodged with the Mineral Resources Authority on March 20, 2018, and on June 25, 2018 an Environment Impact Study was submitted to the Conservation and Protection Authority under the PNG Environment Act 2000.

The feasibility study update provides greater clarity around the infrastructure which will be associated with development of the Wafi-Golpu Project, including the recommended use of deep sea tailings placement as the preferred tailings management solution and the construction of a modular designed power plant.

The Wafi-Golpu Joint Venture participants continue to engage with the PNG government to take forward the SML 10 permitting and approvals process in accordance with PNG law.

Harmony, through its wholly-owned subsidiary Harmony Gold (PNG) Exploration Limited, manages exploration on all of these project areas. Prior to commencement of exploration work programs, the company enters into compensation agreements with landowners on its exploration licenses, in accordance with the PNG Mining Act 1992.

As at June 30, 2019, Harmony’s exploration tenement holding in PNG totaled 894 square kilometers (all titles excluding mining easements and ancillary mining purpose leases). The tenements form three main project areas: 1) Kili Teke in the Hela Province (Harmony 100% owned); 2) A package of tenement encompassing the Hidden Valley District in the Morobe Province (Harmony 100% owned) and; 3) A contiguous package of Exploration Portfolio Joint Venture tenure (Harmony 50% owned) over the area surrounding the Wafi-Golpu Deposit

Regulation

Mineral Rights - South Africa

MPRDA

The MPRDA was promulgated as effective legislation on May 1, 2004 and is the primary legislation regulating the mining industry in South Africa. Pursuant to the MPRDA, the South African government is the custodian of South Africa’s mineral and petroleum resources and has a duty to administer these resources for the benefit of all South Africans. As a consequence, an owner of the surface rights has no claim to the minerals found in, on or under the surface of his or her land. The MPRDA extinguished private ownership of minerals. The DMRE (previously the Department of Mineral Resources) is the government body which, through its regional offices, implements and administers the MPRDA.

Any person (including the owner of the surface rights) who wishes to exploit mineral resources in South Africa is required to first apply for and obtain the appropriate right under the MPRDA. The Minister is authorized to grant or refuse applications for rights under the MPRDA. Provided that an applicant meets all the requirements relating to the right for which the applicant has applied, the Minister is obliged to grant the right. Once the right is granted in terms of the MPRDA and registered in terms of the Mining Titles Registration Act, 16 of 1967, the holder holds a limited real right in respect of the mineral and the land to which such right relates.

In accordance with the MPRDA, the holder of a mining right must comply with the terms of the right, the provisions of the MPRDA, the environmental authorization (issued under NEMA), the mining work program and the social and labor plan (the "**SLP**") approved as part of the right. The SLP relates to the obligations placed on the mining right holder to, among other things, train employees of the mine in accordance with prescribed training methodologies, achieve employment equity and human resource development in the mining company, improve housing and living conditions of employees and set up local economic development projects. Compliance with each of the provisions of the MPRDA, environmental authorization, mining work program and SLP is monitored by submission of monthly, bi-annual and annual returns and reports by the holder of the right to the DMRE in accordance with the provisions of the MPRDA and the right. A prospecting or mining right can be suspended or canceled if the holder conducts mining operations in breach of the MPRDA, a term or condition of the right or an environmental management plan, or if the holder of the right submits false, incorrect or misleading information to the DMRE. The MPRDA sets out a process which must be followed before the Minister is entitled to suspend or cancel the prospecting or mining right.

We have been working on our program of licensing since 2004, which involved the compilation of a mineral assets register and the identification of all of our economic, mineral and mining rights. We actively carry out mining and exploration activities in all of our material mineral rights areas in South Africa. In the period following the MPRDA taking effect, we applied for and were granted conversion of all of our "old order" mining rights into "new order" mining rights in terms of the MPRDA.

Our strategy has been to secure all strategic mining rights on a region-by-region basis, which we have achieved as we have secured all “old order" mining rights and validated existing mining authorizations. All mining operations have valid mining rights in terms of the MPRDA and we now have to continue complying with the required monthly, annual and bi-annual reporting obligation to the DMRE.

On June 21, 2013, the Minister introduced the MPRDA Bill into Parliament. The DMRE briefed the National Assembly's Portfolio Committee on Mineral Resources in July 2013. The MPRDA Bill was passed by both the National Assembly and the National Council of Provinces ("**NCOP**") on March 27, 2014. In January 2015, the former President, Jacob Zuma, referred the MPRDA Bill back to Parliament for reconsideration and on November 1, 2016, the Portfolio Committee on Mineral Resources tabled non-substantial revisions to the MPRDA Bill in the National Assembly and a slightly revised version of the MPRDA Bill was passed by the National Assembly and referred to the NCOP. On March 3, 2017, the National Assembly passed certain minor amendments to the MPRDA Bill. The National Assembly referred the MPRDA Bill to the NCOP where the Select Committee received comments on the draft legislation. The chairperson of the Select Committee had targeted January or February of 2018 to pass the legislation. On February 16, 2018, the current President of South Africa, Cyril Ramaphosa, announced that the MPRDA Bill was at an advanced stage in Parliament. However, in August 2018, the Minister announced that, given certain concerns with the MPRDA Bill, his recommendation would be to withdraw it entirely. The Cabinet subsequently supported the Minister's proposal to withdraw the MPRDA Bill. While the MPRDA Bill was not formally withdrawn by Parliament, it lapsed on March 28, 2019. Although Parliament has the ability to revive a lapsed Bill, it seems unlikely that it will revive the MPRDA Bill given both the Minister's and Cabinet's support for its withdrawal.

Among other things, the MPRDA Bill would:

- *Concentration of rights*

  The MPRDA Bill seeks to introduce a system whereby the Minister invites applications for prospecting rights, exploration rights, mining rights, technical co-operation permit, production rights and mining permits in respect of any area of land. Applicants for rights will no longer be able to rely on the "first come, first served" principle when submitting an application.

- *Ownership of tailings created before May 1, 2004*

  The MPRDA provides that historic tailings are not regulated in terms of the MPRDA; however, the MPRDA Bill purports to amend the MPRDA so as to render historic tailings subject to regulation under the MPRDA, resulting in the South African government gaining custodianship of historic tailings.

- *Transfers in interests in companies*

  The MPRDA Bill seeks to require the consent of the Minister for the transfer of any interest in an unlisted company or any controlling interest in a listed company where such companies hold a prospecting right or mining right.

- *Mineral beneficiation*

  A key change is that the MPRDA Bill seeks to make it mandatory for the Minister to “initiate or promote the beneficiation of minerals and petroleum resources in the Republic of South Africa”. The MPRDA Bill affords the Minister broad discretion over beneficiation, without providing any criteria under which such discretion should be exercised.

- *Issue of a closure certificate*

  The MPRDA Bill envisages that a rights holder will remain liable for any latent or residual environmental and associated damage caused by prospecting and mining operations, even after (and notwithstanding) the issue of a closure certificate by the Minister. This means that a rights holder will no longer be indemnified from liability after the issue of a closure certificate.

There is a large degree of uncertainty regarding the changes that will be brought about should the MPRDA Bill be revised and made law.

The Mining Charter

The South African government has identified the South African mining industry as a sector in which significant participation by HDSAs is required. One of the objects of the MPRDA is to substantially and meaningfully encourage HDSAs to enter the mineral and petroleum industries and to benefit from the exploitation of the nation's mineral and petroleum resources. In terms of section 100 of the MPRDA, the Minister was empowered to develop a broad-based socio-economic charter in order to set the framework for targets and time periods for giving effect to these objectives.

Among other things, the Original Charter stated that mining companies agreed to achieve 26% HDSA ownership of South African mining industry assets within 10 years (i.e. by the end of 2014). Ownership could comprise active involvement, through HDSA-controlled companies (where HDSAs own at least 50% plus one share of the company and have management control), strategic joint ventures or partnerships (where HDSAs own at least 25% plus one vote of the joint venture or partnership interest and there is joint management and control) or collective investment vehicles, the majority ownership of which is HDSA based, or passive involvement, particularly through broad-based vehicles such as employee stock option plans.

The Original Charter was subsequently amended by the Amended Charter which included targets and timelines for HDSA participation in procurement and enterprise development, beneficiation, employment equity, human resources development, mine community development, housing and living conditions, sustainable development and growth of the mining industry and reporting (monitoring and evaluation). It required mining companies to achieve the following, among others, by no later than December 31, 2014:

- have a minimum effective HDSA ownership of 26%;
- procure a minimum of 40% of capital goods, 70% of services and 50% of consumer goods from HDSA suppliers (i.e. suppliers in which a minimum of 25% + one vote of their share capital must be owned by HDSAs) by 2014 (exclusive of non-discretionary procurement expenditure);
- ensure that multinational suppliers of capital goods contribute a minimum of 0.5% of their annual income generated from South African mining companies into a social development fund from 2010 towards the socio-economic development of South African communities;
- achieve a minimum of 40% HDSA demographic representation at executive management (board) level, senior management (executive committee) level, core and critical skills, middle management level and junior management level;
- invest up to 5% of annual payroll in essential skills development activities; and
- implement measures to improve the standards of housing and living conditions for mineworkers by converting or upgrading mineworkers' hostels into family units, attaining an occupancy rate of one person per room and facilitating home ownership options for all mineworkers in consultation with organized labor.

In addition, mining companies were required to monitor and evaluate their compliance with the Amended Charter and submit annual compliance reports to the DMRE. The "scorecard" attached to the Amended Charter made provision for a phased-in approach for compliance with the above targets over the five year period ending on December 31, 2014. For measurement purposes, the scorecard allocated various weightings to the different elements of the Amended Charter. Failure to comply with the provisions of the Amended Charter would, according to its provisions, ostensibly amount to a breach of the MPRDA and could have resulted in the cancellation or suspension of a mining company's mining rights.

Harmony believes that it had complied with the requirements of the Amended Charter by the December 31, 2014 deadline. *See "Integrated Annual Report for the 20-F 2019 - Managing Our Social and Environmental Impacts - Mining Charter II Compliance Scorecard"* on pages 102 to 104.

In March 2015, the DMRE prepared an interim report of consolidated results of the self-assessment by reporting companies of compliance with the Amended Charter, reporting relatively broad compliance with the non-ownership requirements of the Amended Charter. However, the DMRE did not report the results of compliance with the HDSA ownership guidelines of the Amended Charter and noted that there was no consensus on certain principles applicable to the interpretation of the ownership element.

On March 31, 2015, the MCSA and the DMRE jointly agreed to approach the North Gauteng High Court to seek a declaratory order that would provide a ruling on the relevant legislation and the status of the Original Charter and the Amended Mining Charter, including clarity on the status of previous empowerment (i.e., HDSA ownership) transactions concluded by mining companies and a determination on whether the ownership element of the Original Charter and the Amended Charter should be a continuous compliance requirement for the duration of the mining right as argued by the DMRE, or a once-off requirement as argued by the MSCA, on the “once empowered always empowered” principle. The MCSA and the DMRE filed papers in court (the "**Main Application**") and the matter was placed on the roll to be heard on March 15, 2016. On February 16, 2017, the High Court postponed the hearing of the application indefinitely to allow the MCSA and the South African government to engage in further discussion on this matter.

The Minister published the Broad-Based Black Socio-Economic Empowerment Charter for the South African Mining and Minerals Industry, 2017 ("**2017 Mining Charter**") which came into effect on June 15, 2017. The MCSA launched an urgent application in the High Court of South Africa, Gauteng Division, Pretoria to interdict the implementation of the 2017 Mining Charter (the "**Interdict Application**") pending a judicial review application on the basis that it was unilaterally developed and imposed on the industry and that the process that was followed by the DMRE in developing the 2017 Mining Charter had been seriously flawed (the "**2017 Review Application**"). However, the Minister and the MCSA reached an agreement on September 13, 2017 under which the Interdict Application did not proceed as the Minister undertook to suspend the 2017 Mining Charter pending the outcome of the 2017 Review Application by the MCSA. The 2017 Review Application was subsequently indefinitely postponed by agreement between the DMRE and the MCSA on the basis that the MCSA had entered into a new round of discussions with the President of South Africa, Cyril Ramaphosa, and the Minister. On February 19, 2018, the Gauteng Division High Court ordered that the DMRE and the MCSA also involve communities affected by mining activities in these new discussions relating to the 2017 Mining Charter.

When the 2017 Mining Charter was published, the MCSA re-enrolled the Main Application for hearing and the High Court hearing was held in December 2017.

On April 4, 2018, the North Gauteng High Court delivered its judgment in this matter (the "**Judgment**"). The effect of the Judgment is that mining companies are not required to re-empower themselves after their HDSA shareholders have sold out and that the DMRE cannot rely on the provisions of the MPRDA to enforce compliance with the Amended Charter, unless the provisions which the DMRE seeks to enforce were made a term or condition of the mining right. The Court also held that the Minister's promulgation of the Amended Charter did not occur in terms of or in compliance with the duty imposed in terms of section 100(2) of the MPRDA and, as such, the terms of the Amended Charter can have legal consequences or significance only insofar as they are, by any means, reflected in the terms of conditions subject to which the Minister grants a mining right. It also brings the validity and enforceability of any subsequent mining charter into question unless it is legislatively authorized. On April 19, 2018, the DMRE filed a notice of intention to appeal the Gauteng Division High Court’s judgment. If the DMRE’s appeal is successful, then existing and new holders of mining rights would be obliged to restore HDSA percentage ownership where it has fallen below 26%, which may require, among other things, a further issuance of Harmony shares to comply with the new ownership requirements.

On September 27, 2018, the Minister published the Mining Charter III on which date it also became effective, as amended by the notice published in the Government Gazette on December 19, 2018 and read with the Implementation Guidelines. It replaces, in their entirety, the Original Charter and the Amended Charter. Mining Charter III imposes new obligations and increased participation by HDSAs in relation to a mining company's ownership, procurement of goods and services, enterprise and supplier development, human resource development and employment equity requirements. The first annual reporting for compliance with Mining Charter III is on or before March 31, 2020.

Some of the material changes introduced by Mining Charter III include:

- in relation to existing mining rights, the continuing consequences of historical black economic empowerment transactions will be recognized and existing right holders will not be required to increase their HDSA shareholding for the duration of their mining right in circumstances where they either achieved and maintained 26% HDSA ownership or where they achieved the 26% HDSA ownership but their HDSA shareholder has since exited;
- in relation to the renewal and transfer of existing mining rights, historical BEE credentials will not be recognized and mining companies will be required to comply with the ownership requirements in relation to new mining rights (see below);
- in relation to new mining rights (granted after September 27, 2018) mining companies must have a minimum of 30% BEE shareholding distributed as follows: a minimum of 5% non-transferable *carried* interest to qualifying employees; a minimum of 5% non-transferable *carried* interest to host communities, or a minimum 5% equity equivalent benefit; and a minimum of 20% to a BEE entrepreneur, 5% of which must preferably be for women; "carried interest" is defined as "*shares issued to qualifying employees and host communities at no cost to them and free of any encumbrances. The cost for the carried interest shall be recovered by a right holder from the development of the asset*";
- applications for mining rights lodged and accepted prior to September 27, 2018, will be processed in terms of the Amended Charter (i.e. with a 26% HDSA ownership requirement) but with a further obligation to increase their HDSA shareholding to 30% within five years of the granting of the right;
- BEE shareholding may be concluded at holding company level, mining right level, on units of production, shares or assets and where is concluded at any level other than mining right level, the flow-through principle will apply;
- the permitted beneficiation off-set of up to 11% against the HDSA ownership requirement contained in the Original Charter and Amended Charter has been reduced to 5% unless it was "claimed" prior to September 27, 2018;

- a minimum of 70% of total mining goods procurement spend (including non-discretionary expenditure) must be on South African manufactured goods, allocated amongst HDSA owned and controlled companies, women and youth owned and controlled companies and BEE compliant companies;
- a minimum of 80% of the total spend on services (including non-discretionary expenditure) must be sourced from *South African* companies, allocated among HDSA owned and controlled companies, women and youth owned and controlled companies and BEE compliant companies;
- mining companies must achieve a minimum representation of HDSAs in the following management positions: 50% on the Board of directors (20% of which must be women), 50% in executive (20% of which must be women), 60% in senior management (25% of which must be women); 60% in middle level (25% of which must be women); 70% in junior level (30% of which must be women) and 60% in core and critical skills. In addition; HDSAs with disabilities must constitute 1.5% of all employees.
- the Minister may, by notice in the Government Gazette, review Mining Charter III;
- the ownership and mine community development elements are ring-fenced and require 100% compliance at all times; and
- a mining right holder that has not complied with the ownership element and falls between levels 6 and 8 of the Mining Charter scorecard shall be in breach of the MPRDA and its mining right may be suspended or canceled in accordance with the provisions of the MPRDA.

While Mining Charter III is now effective, there are transitional arrangements in relation to compliance with the procurement and the employment equity element targets.

On March 26, 2019, the MCSA instituted judicial review proceedings in High Court of South Africa for an order reviewing and setting aside certain provisions of Mining Charter III. The provisions challenged by the MCSA relate to those which, among other things:

- provide that mining right holders must at all times comply with the ownership requirements imposed under Mining Charter III;
- stipulate that the continuing consequences of historic empowerment transactions will not be recognized if existing mining rights are renewed or transferred to third parties;
- impose the procurement thresholds for goods and services; and
- indicate that the Minister may invoke the sanctions prescribed under the MPRDA, if a mineral right holder fails to comply with the threshold requirements imposed under the Charter.

The application aligns with the MCSA's previously stated view that most aspects of the Mining Charter III represent a reasonable and workable framework. However, the MCSA's application contends that Mining Charter III does not fully recognize the continuing consequences of previous empowerment transactions, particularly in relation to mining right renewals and transfers of such rights. According to the MCSA, this constitutes a breach of the declaratory order on the matter issued by the North Gauteng High Court in April 2018. The ultimate outcome of the review application and ongoing discussions with the Minister remains uncertain. The MCSA's application is likely to be heard on or about September 4, 2019 if it is unopposed.

The Royalty Act

The Mineral and Petroleum Royalty Act 28 of 2008 and the Mineral and Petroleum Royalty Administration Act 29 of 2008 were assented to on November 21, 2008 with the commencement date set as May 1, 2009. However, the date on which royalties became payable was deferred to March 1, 2010. Royalties are payable by the holders of mining rights to the government according to formula based on a defined earnings before interest and tax. This rate is then applied to a defined gross sales leviable amount to calculate the royalty amount due, with a minimum of 0.5% and a maximum of 5% for gold. For 2019, the average royalty rate for our South African operations was 0.7% of the gross sales leviable amount.

The BBBEE Act and the BBBEE Amendment Act

The BBBEE Act, 53 of 2003 (the "**BBBEE Act**"), which came into effect on April 21, 2004, established a national policy on broad-based black economic empowerment with the objective to (i) remedy historical racial imbalances in the South Africa economy and (ii) achieve economic transformation, by increasing the number of black people who participate in the mainstream South African economy. The BBBEE Act provides for various measures to promote BEE participation, including empowering the Minister of Trade and Industry to issue Codes of Good Practice (the "**BBBEE Codes**"), with which organs of state and public entities and parties interacting with them or obtaining rights and licenses from them would be required to comply. The BBBEE Codes were first published in 2007, and were revised in 2013 (although the revisions only came into effect in 2015). The BBBEE Codes sought to provide a standard framework, in the form of a "generic scorecard", for the measurement of BBBEE across all sectors and industries operating within the South African economy and sought to regularize such sectors and industries by providing clear and comprehensive criteria for the measurement of BBBEE.

On October 24, 2014, the BBBEE Amendment Act, 46 of 2013 (the "**BBBEE Amendment Act**") came into effect. The BBBEE Amendment Act inserted a new provision in the BBBEE Act, whereby the BBBEE Act would trump the provisions of any other law in South Africa which conflicts with the provisions of the BBBEE Act, provided such conflicting law was in force immediately prior to the effective date of the BBBEE Amendment Act. The BBBEE Amendment Act also stipulates that this provision would only be effective one year after the BBBEE Amendment Act is brought into effect, on October 24, 2015. On October 27, 2015, the Minister for Trade and Industry published a government gazette notice declaring an exemption in favor of the DMRE from applying the requirements contained in section 10(1) of the BBBEE Act for a period of 12 months.

There has been some debate as to whether or to what extent the mining industry was subject to the BBBEE Act and the policies and codes provided for thereunder. The BBBEE Codes apply in the absence of sector specific codes which have been agreed to by interested and affected parties active within a specific sector. By way of background, various sectors within the South African economy may negotiate and agree Codes of Good Practice which would govern transformation in that specific sector. In addition, certain codes fall outside of the regulatory framework established by the BBBEE Act and BBBEE Codes promulgated by the Minister of Trade and Industry thereunder. One such sector is the mining industry, where the Original Mining Charter, the Amended Mining Charter and Mining Charter III, which we refer to generally in this section as the "**Mining Charter**")) govern the implementation of BBBEE, among other things, within the mining industry.

For purposes of the BBBEE Act, the Mining Charter is not a "sector code". It is not clear at this stage how the Mining Charter and BBBEE Codes relate to each other. The government may designate the Mining Charter as a sector code, in which case it will be under the auspices of the BBBEE Act. On the other hand, the Mining Charter may remain a stand-alone document under the auspices of the MPRDA and may be subject to the trumping provision, discussed above, to the extent that there is a conflict between the two. This uncertainty may be resolved through either government clarification or judicial attention. The exemption by the Minister for Trade and Industry can be read as confirmation that the Department of Trade and Industry regards the BBBEE Codes as "applicable" to the Mining Industry after the exemption is lifted on October 27, 2016.

On February 17, 2016, the Minister of Trade and Industry published a gazette notice which repealed and confirmed the validity of a number of Sector Codes. The omission of the Mining Charter from the notice can be interpreted as confirmation that the Mining Charter is not contemplated as a sector code. This supports the interpretation BBBEE Act did not intend to trump the Mining Charter. While it remains to be seen how this will be interpreted, it appears that the BBBEE Act and the BEE Codes will not overrule the Mining Charter in the future and, in any event, our view is that the DMRE is likely to continue implementing the Mining Charter and it is unlikely that the DMRE will begin applying the BBBEE Act and BBBEE Codes in administering the MPRDA, since in order to do so will potentially require an amendment of the MPRDA.

Mineral Rights - Papua New Guinea

Mining in PNG is governed by the Mining Act 1992 (PNG). The Act stipulates that all mineral rights are the property of the State of PNG, and subject to the Act, all land is available for exploration and mining. The PNG government issues and administers mining tenements under the Mining Act 1992, through the offices of the PNG Mineral Resources Authority, within the PNG Department of Mining

Mining tenements include:

- exploration licenses, issued for a term not exceeding two years, renewable for further two year terms subject to compliance with expenditure and other conditions. Each license contains a condition conferring on the PNG government the right to make a single purchase up to 30% equitable interest in any mineral discovery under the license at a price pro rata to the accumulated exploration expenditure;
- mining leases, issued for a term not exceeding 20 years, renewable on application subject to compliance with issue conditions;
- special mining leases, issued for a term not exceeding 40 years, renewable on application subject to compliance with issue conditions;
- mining easements; and
- leases for mining purposes.

These tenements generally confer exclusive rights on the holder to exercise their rights thereunder. The key difference in PNG is that citizens have the right to carry out non-mechanized mining of alluvial minerals on land owned by them, provided that an alluvial mining lease is obtained and provided there is not already a mining lease or special mining lease over the subject land.

Almost all land in PNG is owned by a person or group of persons under customary ownership, and is not generally overlaid by landowner title. The customary owners of the land have in some instances been formally identified through the work of the Land Titles Commission. However, there is often considerable difficulty in identifying landowners of a particular area of land because land ownership may arise from both contract and inheritance, and because of the absence of a formal written registration system.

Along with standard corporate and other taxes and levies, mining companies must pay royalties to the State and a levy to the PNG Mineral Resources Authority, based on production. Prior to commencing exploration, compensation for loss or damage must be agreed with the landowners. Prior to commencing mining, written agreements must be entered into with landowners dealing with compensation and, in company with the PNG government as a party, a memorandum of agreement dealing with such other matters as the sharing of royalties and other mining benefits between landowner groups and Provincial and local government entities.

Mineral policy in PNG is administered by the Department of Mineral Policy and Geohazards Management, within the Department of Mining. Harmony is represented on the chamber's sub-committee and is actively participating in its discussions.The PNG Mining Act 1992 and the Regulations issued thereunder are currently under review as part of the overall review of mining legislation in PNG. Harmony continues to engage with the State of PNG through the offices of the Chamber of Mines and Petroleum, and directly with the Minister for Mining and the Mineral Resources Authority.

Health and Safety - South Africa

For many years, the safety of persons working in South African mines and quarries was controlled by the Mines and Works Act, 27 of 1956 and then by the Minerals Act, 50 of 1991, which was replaced by the MHSA**.** The objectives of the MHSA are:

- to protect the health and safety of persons at mines;
- to require employers and employees to identify hazards and eliminate, control and minimize the risks relating to health and safety at mines;
- to give effect to the public international law obligations of South Africa that concern health and safety at mines;
- to provide for employee participation in matters of health and safety through health and safety representatives and the health and safety committees at mines;
- to provide effective monitoring of health and safety measures at mines;
- to provide for enforcement of health and safety conditions at mines;
- to provide for investigations and inquiries to improve health and safety at mines;
- to promote a culture of health and safety in the mining industry;
- to promote training in health and safety in the mining industry; and
- to promote co-operation and consultation on health and safety matters between the South African, employers, employees and their representatives.

One of the most important objectives of the MHSA is to protect the health and safety of all persons at mines and not merely the health and safety of employees. An employer is obliged, in terms of the MHSA and the regulations binding in terms thereof, to protect, as far as reasonably practicable, the health and safety of non-employees (such as visitors to a mine and the public who live in close proximity to the mine) and employees (which includes employees of independent contractors) performing work at a mine. The word "*employer*" in section 102 of the MHSA is defined as the owner of the mine. In turn, an "*owner*" of a mine is defined to include: (i) the holder of the prospecting permit or mining authorization issued under the MPRDA; (ii) if a prospecting permit or mining authorization does not exist, the person for whom the activities in connection with the winning of a mineral are undertaken, but excluding an independent contractor; or (iii) the last person who worked the mine or that person's successor in title.

The aforesaid subsection was amended by section 30(f) of the Mine Health and Safety Amendment Act, 74 of 2008 by substituting the term "*Mineral and Petroleum Resources Development Act*" for the term "*Minerals Act*." Under the new system, mining authorizations do not exist. However, taking into account section 12 of the Interpretation Act 33 of 1957, the word "*authorisation*" must be substituted by the words "*mining right or mining permit*." Accordingly, the holder of the "*mining right or mining permit*" is regarded as the employer for the purposes of the MHSA and the regulations binding thereunder. The employer therefore remains responsible to ensure that applicable provisions of the MHSA and the regulations binding in terms thereof, are complied with to ensure the health and safety of persons, as far as reasonably practicable and to prevent damage to property.

The MHSA prescribes general and specific duties for employers and others, determines penalties and a system of administrative fines, and provides for employee participation by requiring the appointment of health and safety representatives and the establishment of health and safety committees. It also entrenches the right of employees to refuse to work in dangerous conditions.

See "Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being - maintaining stability in our workforce - Safety and health" on pages 33 to 49*.*

The Mine Health and Safety Inspectorate ("**MHSI**") within the DMRE is responsible for the enforcement of the MHSA and the regulations binding in terms thereof and it also plays an important role in the promotion of health and safety at mines. The MHSI comprises of a Chief Inspector of Mines, Principal Inspectors of Mines for each region and various Inspectors of Mines for each region. Should employers or employees fail to comply with their obligations under the MHSA, the MHSI may take a number of enforcement measures which include the following:

- the issuing of statutory instructions (for example notices in terms of section 54 or section 55 of the MHSA) if an Inspector of Mines has reason to believe that any occurrence, practice or condition at a mine endangers the health and safety of any person at a mine, or alternatively if an Inspector of Mines has reason to believe that a provision of the MHSA has not been complied with. A notice in terms of section 54 of the MHSA may halt all mining operations undertaken at a mine or part thereof. If a mine receives notices in terms of section 54 of the MHSA regularly, the production stoppages and the additional costs incurred as a result thereof, will not only affect the production results of a mine but also the reputation and business of a mine. If, however, a notice in terms of section 54 of the MHSA has been issued unlawfully, the mine may appeal the said notice to the Chief Inspector of Mines. It must be noted that the aforesaid appeal does not suspend the operation of the notice issued in terms of section 54 of the MHSA. To suspend the operation of the notice in the above instance, a mine may lodge an urgent application to the Labour Court (being the court with jurisdiction) requesting the suspension of the operation of the notice issued in terms of section 54 of the MHSA pending the outcome of the appeal to the Chief Inspector of Mines;
- the Chief Inspector of Mines may suspend or cancel certificates of competency issued in terms of the MHSA if the holder of that certificate is guilty of gross negligence or misconduct or has not complied with the MHSA or the regulations binding thereunder;
- a Principal Inspector of Mines may recommend prosecution to the National Director of Public Prosecutions if satisfied that there is sufficient admissible evidence that an offence has been committed. Any person convicted of an offense in terms of the MHSA may be sentenced to a fine or imprisonment as may be prescribed; and
- a Principal Inspector of Mines may, after considering the recommendation of an Inspector of Mines and the written representations of the employer, impose an administrative fine for the failure to comply with, amongst others, the provisions of the MHSA and the regulations binding thereunder. In terms of Table 2 of Schedule 8 to the MHSA, the maximum administrative fine which may be imposed on an employer is one million Rand per transgression. The MHSA does not make provision for any internal appeal against an administrative fine which has been issued unlawfully. However, if a mine receives an administrative fine which has been issued unlawfully, the mine may lodge an application in the Labour Court (being the court with jurisdiction) to review the decision of the Chief Inspector of Mines to impose an administrative fine.

Over and above the aforesaid, investigation and/or inquiry proceedings in terms of the MHSA are instituted by the MHSI following an accident or occurrence at a mine, which results in the death of any person.

In South Africa the COIDA and ODMWA established two statutory systems for the payment of compensation for occupationally related injuries and certain occupationally related diseases. COIDA applies to the compensation of all occupational injuries (including payment of compensation in the event of the death of the injured employee), whether or not it occurs in or outside the mining industry. ODMWA applies to diseases which are defined as "*compensatable diseases*", being primarily occupationally related lung diseases like silicosis. COIDA indemnifies the employer against claims by the employee or his/her dependents for damages incurred as a result of occupational injuries and diseases. However, the Constitutional Court held in *Mankayi v AngloGold Ashanti Limited* 2011 (3) SA 237 (CC) that although COIDA applies to occupational diseases in general, COIDA does not apply in instances where the disease in question is a compensatable disease in terms of ODMWA and which was contracted as a result of the performance of "*risk work*" at a "*controlled mine*". The Court further held that if an employee contracts a compensatable disease as defined in ODMWA, the employee would still be entitled to claim common law damages from the employer.

Health and Safety - Papua New Guinea

PNG has a significant mining industry, and a developing system of occupational health and safety. The PNG Mining (Safety) Act 1977 is the principal legislation, which addresses a range of issues such as working hours, minimum safety and reporting requirements. Other legislation and regulations also apply.

The PNG Mining (Safety) Act 1977 and the Regulations issued thereunder are currently under review as part of the overall review of mining legislation in PNG. Harmony continues to engage with the State of PNG through the offices of the Chamber of Mines and Petroleum, and directly with the Minister for Mining and the Mineral Resources Authority.

See "Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being - maintaining stability in our workforce - Safety and health" on pages 33 to 49.

Laws and Regulations pertaining to Environmental Protection - South Africa

The following is an overview of the South African environmental laws and regulations which are relevant to our operations in South Africa.

Eight major pieces of legislation presently account for the majority of environmental management of mining operations in South Africa and are discussed in turn below. They are:

- NEMA;
- The NWA;
- The National Environmental Management: Air Quality Act, 39 of 2004;
- The National Environmental Management: Waste Act, 59 of 2008 ("**Waste Act**");
- The National Nuclear Regulator Act, 47 of 1999;
- The National Environmental: Biodiversity Act, 10 of 2004;
- MPRDA; and
- Carbon Tax Act.

South African environmental legislation commonly requires businesses whose operations may have an impact on the environment to obtain permits, authorizations and other approvals for those operations. The rationale behind this is to ensure that companies with activities that are reasonably expected to have environmental impacts, can initially assess the extent of the environmental impacts from such activities, as well as to put reasonable and practicable mitigation measures in place to manage these impacts.

NEMA

NEMA is the overarching legislation giving effect to the environmental right protected in section 24 of the Constitution of the Republic of South Africa, 1996, and which provides the underlying framework and principles underpinning the coordinated and integrated management of environmental activities. In terms of NEMA, an environmental authorization is required in order to commence a listed activity. These activities are currently listed in GNR 983-985 of December 8, 2014 ("**NEMA Listed Activities**"), as amended in GNR 324-327 of April 4, 2017. The commencement of a listed activity without an environmental authorization may be rectified via a section 24G application for authorization, however, such application will be subject to payment of an administrative penalty and may attract other liability. The "financial provision" regulations under NEMA, which were originally published in November 2015, have subsequently been updated with the 2017 draft regulations. These regulations place an emphasis on post-closure water pumping and treatment and the need for upfront provision to be set aside for the management of these types of impacts.

Depending on the anticipated severity of the impact of undertaking a listed activity, the application process will require either a basic assessment report ("**BAR**") or a scoping and environmental impact assessment report ("**S&EIR**") to be prepared as part of the application for an environmental authorization. An activity requiring a mining right is considered to have a more severe environmental impact and requires an S&EIR prior to commencement. This listed activity was previously listed in the listing notices published prior to 2014; however, it was never brought into effect. As a result, there was legal debate about the applicability of NEMA Listed Activities to mining and related activities and whether activities which were incidental to mining triggered other related activities under NEMA. Previously the approval of an Environmental Management Programme ("**EMPR**") served a relatively similar function under the MPRDA. Clarity has since been brought about by virtue of a number of amendments to NEMA and the MPRDA, as well as the listed activities under NEMA and it was clear that as of December 8, 2014, an environmental authorization is required for the commencement of any activity which requires a mining right or the commencement of any activity which requires a prospecting right. The issue of an environmental authorization is a condition prior to the grant of a prospecting or mining right. The DMRE is the responsible authority for the issuing of an environmental authorization; however, the DEFF remains the appeal authority in respect of any appeals to the issue of an environmental authorization. Applicants are also required to follow stringent requirements in the public participation process to enable consultation with all interested and affected parties.

As part of its application for an environmental authorization the applicant must demonstrate that it has complied with the prescribed financial provisioning requirements in terms of section 24P of NEMA. This means that the holder must set aside funds in the form of cash, financial guarantees and/or investment policies, to serve as security for the discharge of the statutory obligation to undertake concurrent rehabilitation, rehabilitation upon closure and the costs of managing latent and residual post closure impacts. Moreover, every holder of a mining right must assess its environmental liability on an annual basis and must increase its financial provision to the satisfaction of the Minister for Mineral Resources. The holder must also submit an audit report to the Minister on the adequacy of the financial provision from an independent auditor. The Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations ("**financial provisions regulations, 2015**") were published in the government gazette in November 2015 and now fall under NEMA. The financial provisions regulations, 2015 stipulate procedures for how financial provision is to be made, audited and reviewed and existing mines are also required to comply with these financial provision requirements, which entails such mines undertaking a substantive review and alignment of the quantum of their existing financial provision in accordance with these regulations. These regulations have brought about a number of changes and clarifications to the previous legal regime with the consequent probable and substantial increase in the required quantum of financial provision set aside by existing operations, as well as the corollary increase in the costs associated with adjusting the financial vehicles historically used by mining companies to put up these provisions. This is due to the qualification that latent or residual environmental impacts which may become known in the future now include the pumping and treatment of polluted or extraneous water. The mining industry has raised serious concerns about the intent of, and ability of the DMRE to implement the new regulations. The financial provisions regulations, 2015 were subsequently updated with a new set of draft regulations published in November 2017 for public comment, with a revised compliance deadline of February 20, 2019. Following engagements with the regulator by industry, the implementation might be been deferred to February 2021.

The 2017 draft regulations place an emphasis on post-closure water pumping and treatment and the need for upfront provision to be set aside for the management of these types of impacts. In 2019, a revised set of draft regulations were published for comment and although the draft regulations address some concerns, the regulations still include many of the troubling issues of the previous drafts.

The industry and Harmony have commented and continues to engage with the regulator.

Lastly, NEMA imposes a statutory obligation on every person who has caused or is likely to cause significant contamination to take reasonable measures in relation thereto. This duty applies retrospectively to contamination caused prior to 1998. A failure to comply with this duty, as well as the requirement for an environmental authorization can result in significant fines of up to R10 million and/or 10 years imprisonment being imposed. Directives or compliance notices can also be issued under NEMA for the temporary or permanent shut down of facilities at a mining operation or the entire mining operation. Directors and certain employees can also be held criminally liable for environmental offences in their personal capacity under NEMA if they fail to take reasonable measures to protect the environment.

Waste management

In relation to mining waste specifically, the Waste Act has been amended so as to apply to residue stockpiles and deposits and to prescribe certain management measures in respect thereof. A waste management license is now required for the establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit. This requirement only applies to facilities established or reclaimed after July 24, 2015. It does not apply retrospectively to negate the lawfulness of existing stockpiles and deposits as the relevant transitional provisions (albeit drafted ambiguously) appear to suggest that if they were authorized in an EMPR in terms of the MPRDA prior to July 24, 2015, they will be considered lawful or authorized for the purposes of the Waste Act. Other waste management facilities constructed and/or operated by our operations may also be subject to licensing requirements, including hazardous waste disposal sites and central salvage yards.

In addition to licensing, mines must also comply with the management measures prescribed for residue stockpiles and deposits in the Regulations for Residue Stockpiles and Residue Deposits from a Prospecting, Mining, Exploration or Production Operation in GNR 632 of July 24, 2015. These regulations do not retrospectively apply to the management of existing stockpiles and deposits, so long as they are in an approved EMPR. These regulations have notable cost implications for new residue stockpiles and deposits established after this date as they impose certain liner/barrier requirements for them.

The Waste Act also regulates contaminated land, whether or not the contamination occurred before the commencement of the Waste Act or at a different time from the actual activity that caused the contamination. Consequently, historic, as well as present or future arising, contaminated land which is identified as an investigation area by the environmental authorities or which is notified as being contaminated by the landowner must be assessed and reported on. The direction of taking monitoring and management measures, or of undertaking site remediation, may follow depending on the level of risk associated with the contamination.

Water use and pollution

South Africa's water resources are regulated by the NWA. The NWA has provisions governing the prevention and remediation of pollution, and provides for a liability regime similar to that of NEMA, as well as licensing requirements. Most mining operations require a water use license in order to conduct their operations, particularly for activities relating to water abstraction, storage, effluent discharge, diversions, and facilities which have the potential to pollute groundwater resources. Water use licenses are difficult to obtain and usually involve a lengthy and delayed application process. Mines are also required to comply with the regulations which were specifically published for the use of water for mining and related activities in GN 704 of June 4, 1999. These regulations provide for limitations on the location of mining infrastructure and requirements for separation of dirty and clean water systems and the design of certain water management infrastructure.

Emissions

On February 19, 2019, South Africa's National Assembly adopted the draft Carbon Tax Bill, which was sent to the NCOP to be debated and voted upon and then to the President. The Bill became law and came into effect on June 1, 2019 upon the President's assent and signature as the Carbon Tax Act. In addition, the DEFF published the 2018 Climate Change Bill dated June 8, 2018, for public consultation in response to the international commitments made under the Paris Agreement. It aims to address climate change in the long-term by aiming for a climate resilient and low carbon economy in South Africa.

The carbon tax has been designed to fix liability on the person who conducts an activity in South Africa that results in GHGs emissions above a certain threshold. The carbon tax design requires the calculation of liability to be based on the sum of GHG emissions, which result from fuel combustion, industrial processes and fugitive emissions. Taxpayers must determine emissions in accordance with the reporting methodology approved by the DEFF. The tax will be phased in over time. The first phase, which ends in 2022, is designed to be revenue-neutral in terms of its aggregated impact, given the complementary tax energy incentives and reduction or credit for the current electricity levy.

Environment - Papua New Guinea

In PNG, there are various laws and regulations relating to protection of the environment which are similar in scope to those of South Africa. The PNG Environment Act 2000 governs the environmental permitting and regulatory aspects of mining projects. An environmental impact statement is required when projects are likely to have a significant adverse impact on the environment and other social or cultural heritage aspects This statement must be lodged with the Conservation and Environment Protection Authority (previously the Department of Environmental Conservation) where, for large projects, it may be subject to an independent peer review prior to endorsement by the Environment Council for review. Public consultation is an integral part of this review.

Other environmental legislation includes the PNG Maritime Zones Act 2015 and the PNG Forestry Act 1991 and Regulations.

A process of legislative review is underway and a number of environmental matters are under consideration, including a Mine Closure Policy which includes the provision of financial assurance for closure costs, and a Biodiversity Mitigation and Offset Policy. Harmony continues to engage with the State of PNG through the offices of the Chamber of Mines and Petroleum, and directly with the Minister for Environment and the Conservation and Environment Protection Authority.

Labor Relations

South Africa

Employee relations in South Africa are guided by the Labour Relations Act 66 of 1995 as well as by company and mine-based recognition agreements. In South Africa, Harmony recognizes four labor unions (save for the Moab Khotsong operation where National Union of Metalworkers of South Africa ("**NUMSA**") is also recognized). As at financial year-end, these unions and their corresponding representation were as follows, namely the National Union of Mineworkers (at 58%); the Association of Mineworkers and Construction Union (at 24%); the United Association of South Africa (at 6%) National Union of Metalworkers (4%) and Solidarity (at 2%). About 94% of our South African workforce is unionized, with the balance not belonging to a union. See *"Integrated Annual Report for the 20-F 2019 - Ensuring employee safety and well-being - maintaining stability in our workforce - Employee relations"* on pages 49 to 56.

Australia

Employee relations in Australia are regulated by a combination of federal and state statutes that stipulate minimum standards and provide for collective bargaining and action. All employment contracts are based on the Australian Fair Work Act, 28 of 2009 and the National Employment Standards. Our Australian workforce is not unionized.

Papua New Guinea

Employee relations in PNG are regulated by the PNG Employment Act of 1978 and the PNG Employment of Non-Citizens Act 1978. Individual contracts are entered into, and the workforce is not unionized.

In PNG, wages are guided by independent market research that compares mining, oil and gas companies in the region. Industrial relations at Hidden Valley have been established through regular dialogue between management and employees via the Employee Relations Committee. Employees at PNG are not unionized, however, Hidden Valley Mine employment is guided by the Training and Localisation Policy appended to the Memorandum of Agreement ("**MOA**") between the company, the PNG government, provincial and local governments and the Landowner Association. The MOA governance process requires that, when qualifications and experience are equivalent, employment preference is given to local and landowner candidates before individuals from other provinces or countries. Compliance with this agreement is a critical issue in maintaining Hidden Valley Mine's license to operate.

C. ORGANIZATIONAL STRUCTURE

The information set forth under the heading:

- *"-Corporate profile"* on page 6

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference. Also see note 2.1 "*Consolidation*" of our consolidated financial statements, set forth beginning on page F-1.

D. PROPERTY, PLANT AND EQUIPMENT

The information set forth under the headings:

- *"- Managing our Social and Environmental Impacts - Environmental management and stewardship"* on pages 80 to 102;
- *"- Delivering profitable ounces - Operational performance"* on pages 57 to 62;

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference. Also see note 13 "*Property, Plant and Equipment*" and note 31 "*Cash Generated by Operations*" of our consolidated financial statements, set forth beginning on page F-1.

Also see Item 4: "*Information on the Company - Business Overview -- Reserves", "- Geology" and "- Capital Expenditures"* and Item 5: "*Operating and Financial Review and Prospects - Tabular Disclosure of Contractual Obligations"*.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

You should read the following discussion and analysis together with our consolidated financial statements, including the related notes, set forth beginning on page F-1.

A. OPERATING RESULTS

Overview

Harmony is currently the largest producer of gold in South Africa and is furthermore an important producer in PNG. Our gold sales for fiscal 2019 were 44,568 kilograms of gold (1.43 million ounces of gold) excluding capitalized ounces and in fiscal 2019 we processed approximately 25.9 million tonnes of ore. As at June 30, 2019, our mining operations and projects reported total proved and probable reserves of approximately 36.5 million gold equivalent ounces.

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker ("**CODM**"). The CODM has been identified as the CEO's office consisting of the chief executive officer, financial director, director corporate affairs, chief operating officer: new business, chief executive officer: South-east Asia and chief operating officer: South Africa.

For segment purposes, management distinguishes between "Underground" and "Surface", with each shaft or group of shafts or open-pit mine managed by a team (headed by a single general manager) being considered to be an operating segment.

Our reportable segments are as follows:

- Bambanani, Doornkop, Joel, Kusasalethu, Masimong, Moab Khotsong, Target 1, Tshepong Operations, Unisel and Hidden Valley; and
- all other shafts and surface operations, including those that treat historic sand dumps, rock dumps and tailings dams, are grouped together under *"All other surface operations*".

Recent Accounting Pronouncements

Recently adopted accounting policies, as well as recent accounting pronouncements with the potential for impact on the consolidated financial statements, are described in note 2 "*Accounting Policies*" to our consolidated financial statements set forth beginning on page F-1.

Critical Accounting Policies and Estimates

The preparation of our financial statements in accordance with IFRS requires management to make estimates and assumptions that affect the reported results of our operations. Actual results may differ from those estimates. We have identified the most critical accounting policies upon which our financial results depend. Some of our accounting policies require the application of significant judgment and estimates by management in selecting the appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty and are based on our historical experience, terms of existing contracts, management's view on trends in the gold mining industry and information from outside sources.

Our significant accounting policies and critical accounting estimates and judgments are described in more detail in note 2 "*Accounting Policies*" and note 3 "*Critical Accounting Estimates and Judgments*", respectively, to our consolidated financial statements set forth beginning on page F-1. This discussion and analysis should be read in conjunction with such consolidated financial statements and the relevant notes. Management has identified the following as critical accounting policies because estimates used in applying these policies are subject to material risks and uncertainties. Management believes the following critical accounting policies, together with the other significant accounting policies discussed in the notes to our consolidated financial statements, affect its more significant judgments and estimates used in the preparation of our consolidated financial statements and could potentially impact our financial results and future financial performance.

Gold Mineral Reserves

Gold mineral reserves are estimates of the amount of ounces that can be economically and legally extracted from the Group's properties. In order to calculate the gold mineral reserves, estimates and assumptions are required about a range of geological, technical and economic factors, including quantities, grades, production techniques, recovery rates, production costs, commodity prices and exchange rates.

Estimating the quantities and/or grade of the reserves requires the size, shape and depth of the orebodies to be determined by analyzing geological data such as the logging and assaying of drill samples. This process may require complex and difficult geological judgments and calculations to interpret the data. These reserves are determined in accordance with the SAMREC Code and SEC Industry Guide 7.

Because the economic assumptions used to estimate the gold mineral reserves change from year to year, and because additional geological data is generated during the course of operations, estimates of the mineral reserves may change from year to year. Changes in the proved and probable reserves may affect the Group's financial results and financial position in a number of ways, for example depreciation and amortization charged in the income statement may change as they are calculated on the units-of-production method.

The estimate of the total expected future lives of our mines could be materially different from the actual amount of gold mined in the future. See Item 3: *"Key Information - Risk Factors - Estimations of Harmony's reserves are based on a number of assumptions, including mining and recovery factors, future cash costs of production, exchange rates, and the relevant commodity prices. As a result, metals produced in future may differ from current estimates".*

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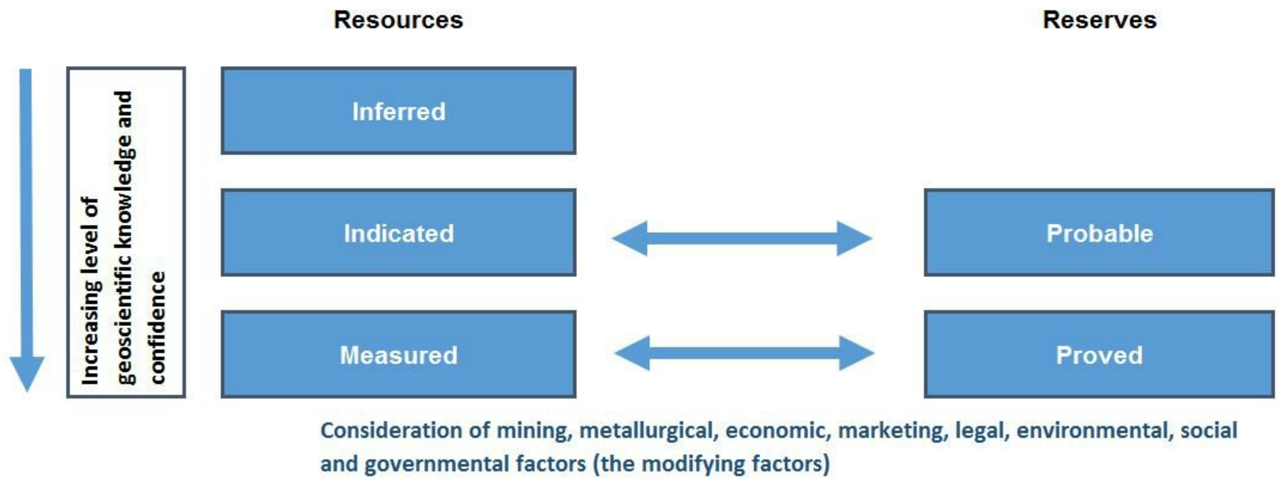
Depreciation of Mining Assets

Depreciation of mining assets is computed principally by the units-of-production method over the life of mine, based on estimated quantities of economically recoverable proved and probable reserves, which can be recovered in future from known mineral deposits.

The preparation of consolidated financial statements in compliance with IFRS requires management to assess the useful life of each of its operations separately based on the characteristics of each deposit and select the reserve/resource base that best reflects the useful life of the operation. In most instances, management considers the use of proved and probable reserves for the calculation of depreciation and amortization expense to be the best estimate of the life of the respective mining operation. Therefore, for most of the Company's operations, we use proved and probable reserves only, excluding all inferred resources as well as any indicated and measured resources that have not yet been deemed economically recoverable.

In some instances, proved and probable reserves alone may not provide a realistic indication of the useful life of mine and related assets. In these instances, management may be confident that certain inferred resources will eventually be classified as measured and indicated resources, and if economically recoverable, they will be included in proved and probable reserves. Management is approaching economic decisions affecting the mine on this basis, but has not yet done the necessary development and geological drill work to improve the confidence to the required levels to designate them formally as reserves. In these cases, management, in addition to proved and probable reserves, may also include certain, but not all, of the inferred resources associated with these properties as the best estimate of the pattern in which the asset's future economic benefits are expected to be consumed by the entity.



Management only includes the proved and probable reserves and the inferred resources that have been included in the life-of-mine plan. To be included in the life-of-mine plan, resources need to be above the cut-off grade set by management, which means that the resource can be economically mined and is therefore commercially viable. This consistent systematic method for inclusion in the life-of-mine plan takes management's view of the gold price, exchange rates as well as cost inflation into account. The board of directors and management approach economic decisions affecting these operations based on the life-of-mine plans that include such resources. In declaring the resource, management would have had to obtain a specified level of confidence of the existence of the resource through drilling as required by the SAMREC Code. For further discussion on mineral reserves, see *"- Gold Mineral Reserves"* above.

In fiscal 2019, 2018 and 2017, the Company added the inferred resources that were included in the life-of-mine plans at Doornkop to the proved and probable reserves in order to calculate the depreciation expense. The depreciation calculation for all other operations was done using only the proved and probable reserves.

In fiscal 2016, exploration at Doornkop proved successful with the inclusion of new mining areas in the updated life-of-mine plan for fiscal 2017. During fiscal 2017 a seismic study was completed with the results finalized during the first half of fiscal 2018 and changes to the model reflected in the current life-of-mine production profile. This, together with the underground exploration that started during fiscal 2017, increased Doornkop's geological and orebody confidence and the updated geological model has been used in the latest life-of-mine plan.

At Doornkop, there has been a steady conversion of the inferred resources included in the life-of-mine plan into measured and indicated resources that are then classified as reserves if economically viable. In addition, there have been no instances during the periods presented where subsequent drilling or underground development indicated instances of inappropriate inclusion of inferred resources in the life-of-mine plan. As such, management is confident that the inclusion of the inferred resources included in the life-of-mine plan in calculating the depreciation charge is a better reflection of the pattern of consumption of the future economic benefits of these assets than would be achieved by excluding them.

Management's confidence in the economical recovery of these inferred resources is based on historical experience and available geological information. The surface drilling spread (surface boreholes) and underground advance drilling at Doornkop South Reef has indicated that the portion of the inferred resources included in the life-of-mine plan exist and can be economically mined with a high level of confidence in the orebodies. The surface boreholes have been used to determine the existence of the orebodies as well as the location of major geological structures and the mineralogy of the orebodies. However, since further drilling and underground development necessary to classify the inferred resources as measured and/or indicated resources and then as reserves, if economically recoverable, has not been done yet, they remain in the inferred resource category. Geological drilling can only be done as and when the underground infrastructure is advanced.

Additional confidence in existence and commercial viability is obtained from the fact that the orebodies surrounding the operation have already been mined over many years in the past. We mine continuations of the same reefs that these mined-out operations exploited. At Doornkop South Reef, the geological setting of the orebody is such that there is an even distribution of the mineralized content, and reliance can be placed on the comparable results of the surrounding mines. As these results are already known, simulations and extrapolations of the expected formations can be done with a reasonable degree of accuracy. Although this information will not allow the classification of inferred resources to measured and indicated resources and then as a reserve if economically viable, it does provide management with valuable information and increases the level of confidence in existence and grade expectation.

Future capital expenditure necessary to access these inferred resources, such as costs to complete a decline or a level, has also been included in the cash flow projections for the life-of-mine plan and have been taken into account when determining the pattern of depreciation charge for these operations.

Due to the fact that the economic assumptions used to estimate the proved and probable reserves and resources change from year to year, and because additional geological data is generated during the course of operations, estimates of the resources and proved and probable reserves may change from year to year. Changes in the proved and probable reserves and the inferred resource base used in the life-of-mine plan may affect the calculation of depreciation and amortization. The change is recognized prospectively.

The relevant statistics for Doornkop have been included below.

		Applicable to the Fiscal Year Ended June 30		
Doornkop		**2019**	**2018**	**2017**
A	Years (life-of-mine plan)	16	18	17
B	Reserves (Tonnes million)	7.0	4.6	4.3
B	Resources (Tonnes million)	12.0	16.9	18.7
D	Total inferred resources (Tonnes million)	5.2	10.6	12.2
E	Inferred resources included in life-of-mine plan (Tonnes million)	5.6	9.5	7.0
F	Future development costs (Rand million)	519	494	358
G	Depreciation expense for the fiscal year			
	• As reported (Rand million)	258	185	226
	• Excluding inferred resources (Rand million)	320	336	384

Doornkop's inferred resources included in the life-of-mine plan is based on the tonnage milled which includes all dilution factors. The tonnes included in life-of-mine plan exceeds the declared inferred resource values as the mineral resource tons does not include any dilution and only reflects the insitu on reef tons.

Impairment of Property, Plant and Equipment

We review and evaluate our mining assets for impairment when events or changes in circumstances indicate the related carrying amounts may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash generating units). Each operating shaft, along with allocated common assets such as plants and administrative offices, is considered to be a cash generating unit as each shaft is largely independent of the cash flows of other shafts and assets.

Future cash flows are estimated based on estimated quantities of recoverable minerals, expected commodity prices (considering current and historical prices, price trends and related factors), production levels and cash costs of production, capital and reclamation costs, all based on detailed life-of-mine plans. The significant assumptions in determining the future cash flows for each individual operating mine at June 30, 2019, apart from production cost and capitalized expenditure assumptions unique to each operation, included a gold price, silver price and exchange rate assumptions, are as follows:

Fiscal year ended June 30, 2019

	Short term	Medium term	Long term
US$ gold price per ounce	1,325.00	1,310.00	1,290.00
US$ silver price per ounce	15.75	15.75	17.00
Rand/gold price (R/kg)	615,000	600,000	585,000
Rand/US$ exchange rate	14.43	14.25	14.11
US$/Kina exchange rate	3.34	3.34	3.34

The term “recoverable minerals” refers to the estimated amount of gold that will be obtained from proved and probable reserves and related exploration stage mineral interests, except for other mine-related exploration potential and greenfields exploration potential discussed separately below, after taking into account losses during ore processing and treatment. Estimates of recoverable minerals from such exploration stage mineral interests are risk adjusted based on management’s relative confidence in such materials. With the exception of other mine-related exploration potential and greenfields exploration potential, estimates of future undiscounted cash flows are included on an "area of interest" basis, which generally represents an individual operating mine, even if the mines are included in a larger mine complex. In the case of mineral interests associated with other mine-related exploration potential and greenfields exploration potential, cash flows and fair values are individually evaluated based primarily on recent exploration results and recent transactions involving sales of similar properties.

As discussed above under “- *Gold Mineral Reserves*”, various factors could impact our ability to achieve our forecasted production schedules from proved and probable reserves. Additionally, gold prices, capital expenditure requirements and reclamation costs could differ from the assumptions used in the cash flow models used to assess impairment. The ability to achieve the estimated quantities of recoverable minerals from exploration stage mineral interests involves further risks in addition to those factors applicable to mineral interests where proved and probable reserves have been identified, due to the lower level of confidence that the identified mineralized material can ultimately be mined economically. Assets classified as other mine-related exploration potential and greenfields exploration potential have the highest level of risk that the carrying value of the asset can be ultimately realized, due to the still lower level of geological confidence and economic modeling.

During fiscal 2019, we recorded an impairment of property, plant and equipment of R3.9 billion. During fiscal 2018 we recorded an impairment of R5.3 billion as well as an impairment of R1.7 billion in 2017. Material changes to any of these factors or assumptions discussed above could result in future impairment charges, particularly around future commodity price assumptions. A 10% decrease in commodity price assumptions at June 30, 2019 would have resulted in impairments as follows:

	(R millions)
Tshepong Operations	7,155
Kusasalethu	1,962
Kalgold	39
Hidden Valley	749
Target 1	1,278
Doornkop	1,350
Masimong	105
Moab Khotsong*	2,758
Joel	984
Target 3	337
Other surface operations	178
Target North	291
Unisel	45
Bambanani*	331

*The goodwill balance attributed to this cash generating unit would be reduced to Rnil. See *“- Carrying Value of Goodwill”* below.

A 10% increase would result in an impairment of R300 million being recorded at Target 3. No other impairments would be recorded.

This analysis assumes that all other variables remain constant.

Carrying Value of Goodwill

We evaluate, on at least an annual basis, the carrying amount of goodwill to determine whether current events and circumstances indicate that such carrying amount may no longer be recoverable. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash generating units). Each operating shaft, along with allocated common assets such as plants and administrative offices, is considered to be a cash generating unit as each shaft is largely independent of the cash flows of other shafts and assets. To accomplish this, we compare the recoverable amounts of our cash generating units to their carrying amounts. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. If the carrying value of a cash generating unit were to exceed its recoverable amount at the time of the evaluation, an impairment loss is recognized by first reducing goodwill, and then the other assets in the cash generating unit on a pro rata basis. Assumptions underlying fair value estimates are subject to risks and uncertainties. If these assumptions change in the future, we may need to record impairment charges on goodwill not previously recorded.

As at June 30, 2019 our goodwill related to the Moab Khotsong and Bambanani cash generating units. Goodwill of R302 million was recognized on acquisition of the Moab Khotsong operations during fiscal 2018. Refer to note 12 "*Acquisitions and Business Combinations*" of our consolidated financial statements for further details. An impairment of R6 million on goodwill relating to Bambanani, was recorded in fiscal 2019. Impairment on goodwill of R367 million was recorded during fiscal 2018 of which the Tshepong Operations amounted to R326 million and R41 million related to Joel.

Derivatives and Hedging Activities

Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The accounting for subsequent changes in fair value depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged.

The difference between the fair value of the derivative at initial recognition and expected forward transaction price is deferred and recognized as a day one gain or loss. The day one gain or loss is amortized over the derivative contract period and recognized in profit or loss in gains/losses on derivatives.

The full fair value of a derivative is classified as a non-current asset or liability when the remaining maturity is more than 12 months; it is classified as a current asset or liability when the remaining maturity is less than 12 months.

Cash flow hedge

The Group designates, as cash flow hedges, certain derivatives as hedges of a particular risk associated with the cash flows of highly probable forecast transactions. The Group documents at the inception of the hedging transaction the relationship between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions. The Group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions have been and will continue to be highly effective in offsetting changes in cash flows of hedged items.

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income and accumulated in reserves in equity. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss within gains/losses on derivatives.

Amounts accumulated in equity are reclassified to profit or loss in the periods when the forecast sale that is hedged takes place and affects profit or loss. The gain or loss relating to the effective portion of the Rand gold forward sales contracts is recognized in profit or loss within revenue.

When a hedging instrument expires or is sold or terminated, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognized when the forecast transaction that was hedged is ultimately recognized in profit or loss. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately reclassified to profit or loss.

Derivatives not designated for hedge accounting purposes

Certain derivative instruments do not qualify for hedge accounting. Changes in the fair value as well as gains and losses on expiry, disposal or termination of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss and are included in gains/losses on derivatives.

Provision for Environmental Rehabilitation

Our mining and exploration activities are subject to various laws and regulations governing the protection of the environment. Estimated long term environmental obligations, comprising pollution control, rehabilitation and mine closure, are based on the Group's environmental management plans. Annual changes in the provision consist of finance costs relating to the change in the present value of the provision and inflationary increases in the provision estimate, as well as changes in estimates. The present value of environmental disturbances created is capitalized to mining assets against an increase in the rehabilitation provision. The mining asset is depreciated as discussed above. Rehabilitation projects undertaken, included in the estimates are charged to the provision as incurred. The cost of ongoing current programs to prevent and control pollution is charged against income as incurred. See Item 3: "*Key Information - Risk Factors - We are subject to extensive environmental regulations*".

Provision for Silicosis Settlement

The Group's portion of the potential cost of settling the silicosis and tuberculosis class actions that have been instituted against it in South Africa has been provided for. The expected contributions (cash flows) to the vehicle that will manage the settlement process have been discounted over the expected period of time during which contributions will be made. Annual changes in the provision consists of the time value of money (recognized as finance cost) and changes in estimates (recognized as other operating expenses).

See Item 3: "*Key Information - Risk Factors - The cost of occupational healthcare services and the potential liabilities related to occupational health diseases may increase in future and may be substantial*".

Deferred Taxes

The taxable income from gold mining at our South African operations was subject to a formula to determine the taxation expense. The tax rate calculated using the formula was capped to a maximum mining statutory rate of 34% for fiscal 2019, fiscal 2018 and fiscal 2017. Taxable income is determined after the deduction of qualifying mining capital expenditure to the extent that it does not result in an assessed loss. Excess capital expenditure is carried forward as unredeemed capital expenditure and is eligible for deduction in future periods, taking the assessed loss criteria into account. Further to this, mines are ring-fenced and are treated separately for tax purposes, with deductions only being available to be claimed against the mining income of the relevant ring-fenced mine.

In terms of IAS 12 - Income Taxes, deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, and at our South African operations, such average tax rates are directly impacted by the profitability of the relevant ring-fenced mine. The deferred tax rate is therefore based on the current estimate of future profitability of an operation when temporary differences will reverse, based on tax rates and tax laws that have been enacted at balance sheet date.

The future profitability of each ring-fenced mine, in turn, is determined by reference to the life-of-mine plan for that operation. The life-of-mine plan is based on parameters such as the Group's long term view of the US$ gold price and the Rand/US$ exchange rate, as well as the reserves declared for the operation. As some of these parameters are based on market indicators, they differ from one year to the next. In addition, the reserves may also increase or decrease based on updated or new geological information.

We do not recognize a deferred tax asset when it is more likely than not that the asset will not be utilized. Assessing recoverability of deferred tax assets requires management to make significant estimates related to expectation of future taxable income. Estimates of future taxable income are based on forecasted cash flows from operations, reversals of deferred tax liabilities and the application of existing tax laws in each jurisdiction. To the extent that future taxable income differs significantly from estimates, our ability to realize the net deferred tax assets recorded at the balance sheet date could be impacted. Additionally, future changes in tax laws in the jurisdictions in which we operate could limit our ability to obtain the future tax benefits represented by deferred tax assets recorded at the balance date.

Revenue

Most of our revenues are derived from the sale of gold. As a result, our operating results are directly related to the price of gold. Historically, the price of gold has fluctuated widely. The gold price is affected by numerous factors over which we do not have control. See Item 3:"*Key Information - Risk Factors - The profitability of our operations, and cash flows generated by those operations, are affected by changes in the price of gold. A fall in the gold price below our cash cost of production and capital expenditure required to sustain production for any sustained period may lead to losses and require Harmony to curtail or suspend certain operations*". As a general rule, we sell our gold produced at market prices to obtain the maximum benefit from increases in the prevailing gold price.

Since fiscal 2017, Harmony entered into derivative contracts to manage the variability in cash flows from the Group's production, in order to create cash certainty and protect the Group against lower commodity prices. At year end the limits set by the Board were for 20% of the production from gold over a 24-month period. In response to the increase in the Rand gold price, this limit was temporarily increased to 24% just before year-end to accommodate additional hedging for certain more marginal operations. This increased limit normalizes back to 20% by the end of the 2020 financial year. The limit set by the Board for silver is 50% of the exposure over a 24-month period. Management continues to top up these programs as and when opportunities arise to lock in attractive margins for the business, but are not required to maintain hedging at these levels.

A portion of the production of the South African operations is linked to Rand gold forward sale contracts. The majority of the Rand gold forward contracts have been designated as cash flow hedging instruments and hedge accounting is applied on these contracts. In addition, during 2019 US$ gold forward sale contracts were entered into for the production of the Hidden Valley operation and have been designated as cash flow hedging instruments. Contracts entered before January 1, 2019 were not designated as hedging instruments and the gains/losses are accounted for in profit or loss.

Previously, income from silver and uranium sales were classified as a credit to cost of sales. The increasing significance of by-product income following the acquisition of the additional Hidden Valley interest warrants the by-products to be considered an output of the Group's ordinary activities and therefore income from these products are presented as part of the Group's revenue.

Significant changes in the price of gold over a sustained period of time may lead us to increase or decrease our production in the near term.

Harmony's Realized Gold Price

In fiscal 2019, the average gold price received by us was R586,653 per kilogram or $1,287/oz. This average gold price includes the realized gains on the hedging instruments, where hedge accounting was applied. The market price for gold (and, accordingly, the price received by us) is affected by numerous factors over which we have no control. See Item 3: "*Key Information - Risk Factors - The profitability of our operations, and cash flows generated by those operations, are affected by changes in the price of gold. A fall in the gold price below our cash cost of production and capital expenditure required to sustain production for any sustained period may lead to losses and require Harmony to curtail or suspend certain operations*".

In addition to the US$ gold price, the gold price received is impacted by the exchange rate of the Rand and other non-US$ currencies to the US dollar. An appreciation of the Rand and other non-US$ currencies against the US dollar will result in a decrease in the revenue recorded, without considering the impact of the hedging instruments. Conversely, a depreciation of these currencies against the US dollar would result in an increase of revenue recorded. See Item 3: "*Key Information - Risk Factors - Foreign exchange fluctuations could have a material adverse effect on Harmony's operational results and financial condition*". During fiscal 2019, the depreciation of the exchange rate from R12.85/US$1 in fiscal 2018 to R14.18/US$1 in fiscal 2019 increased the average Rand gold price received. See "*- Exchange Rates*" below for a further discussion.

The following table sets out the average, the high and the low London Bullion Market price of gold and our average sales price during the past three fiscal years:

	Fiscal Year Ended June 30,		
	2019	**2018**	**2017**
Average (US$/oz)	1,291	1,297	1,257
High (US$/oz)	1,540	1,355	1,366
Low (US$/oz)	1,178	1,211	1,125
Harmony's average sales price[1] (US$/oz))	1,287	1,380	1,301
Average exchange rate (R/US$)	14.18	12.85	13.6
Harmony's average sales price[1] (Rand/kilogram)	586,653	570,709	570,164

[1]Our average sales price differs from the average gold price due to the timing of our sales of gold within each year. In addition, the effect of hedge accounting i.e. realized gains from the cash flow hedges have been included in revenue.

Costs

Our cash costs typically make up between 70% and 80% of our total costs (excluding impairments and disposal/loss on scrapping of assets). The remainder of our total costs consists primarily of exploration costs, employment termination costs, corporate and sundry expenditure, and depreciation and amortization. Our cash costs consist primarily of production costs. Production costs are incurred on labor, equipment, consumables and utilities. Labor costs are the largest component and typically comprise between 60% and 65% of our production costs.

Our US dollar translated costs are very sensitive to the exchange rate of the Rand and other non-US currencies to the US dollar. See "*- Exchange Rates*" below. Depreciation of the Rand and other non-US currencies against the US dollar decreases working costs at our operations when those costs are translated into US dollars. See Item 3: "*Key Information - Risk Factors - Foreign exchange fluctuations could have a material adverse effect on Harmony's operational results and financial condition*".

All-in sustaining unit costs for the Group increased by 8% to R550,005 per kilogram in fiscal 2019 mainly due to inflationary increases in wages and salaries and electricity tariff increases. In US dollar terms, all-in sustaining unit costs decreased by 2% to US$1,207 per ounce mainly due to the weakening of the average Rand exchange rate against the US dollar by 10% to R14.18 in fiscal 2019.

Our cash costs have increased from R421,260 per kilogram in fiscal 2018 to R439,722 per kilogram in fiscal 2019, mainly due to the impact of increased labor and energy costs and inflationary pressures on supply contracts. In US dollar terms, cash costs decreased from US$1,018 per ounce in fiscal 2018 to US$965 per ounce in fiscal 2019 due to the weakening of the Rand against the US dollar.

Management conducts a thorough review of costs at all operations to ensure that costs are properly managed and within budget. However, it should be noted that there are risks beyond our control such as safety stoppages, which would result in production being negatively affected while certain costs would still be incurred. This is discussed in more detail in Item 3: "*Key Information - Risk Factors - Given the nature of mining and the type of gold mines we operate, we face a material risk of liability, delays and increased cash costs of production from environmental and industrial accidents and pollution compliance breaches*" and "*- The nature of our mining operations presents safety risks*". We are also exposed to price increases on electricity, which is regulated as well as the implementation of other levies such as carbon tax. See Item 3: "*Key Information - Risk Factors - Disruptions to the supply of electricity and increases in the cost of power may adversely affect our results of operations and financial condition*" and "*- Compliance with emerging climate change regulations could result in significant costs for Harmony, and climate change may present physical risks to our operations*".

Reconciliation of Non-GAAP Measures

The World Gold Council ("**WGC**") published industry guidance in June 2013 on the calculation of "all-in sustaining costs" and "all in cost" non-GAAP measures, developed to create a better understanding of the overall costs associated with producing gold. Although Harmony is not a member of the WGC, we started disclosing all-in sustaining costs in fiscal 2014. The all-in sustaining cost measure is an extension of the existing cash cost measure (refer below) and incorporates costs related to sustaining production.

All-in sustaining costs include mine production costs, transport and refinery costs, applicable general and administrative costs, costs associated with movements in production inventories, ore stockpiles, as well as ongoing environmental rehabilitation costs, transfers for stripping activities and costs associated with royalties. Employee termination costs are included, however employee termination costs associated with major restructuring and shaft closures are excluded. The following costs are also included: local economic development ("**LED**") expenditure for continuing operations, corporate costs, sustaining exploration costs and sustaining capital expenditure including ongoing capital development ("**OCD**") expenditure and rehabilitation accretion and amortization for continuing operations. Gold ounces/kilograms sold are used as the denominator in the all-in sustaining costs per ounce/kilogram calculation.

Our cash costs consist primarily of production costs and are expensed as incurred. The cash costs are incurred to access ore to produce current mined reserves. Cash costs do not include capital development costs, which are incurred to allow access to the orebody for future mining operations and are capitalized and amortized when the relevant reserves are mined.

Total cash costs include mine production costs, transport and refinery costs, applicable general and administrative costs, ore stockpiles, as well as ongoing environmental rehabilitation costs as well as transfers for stripping activities and costs associated with royalties. Employee termination cost is included, however employee termination costs associated with major restructuring and shaft closures are excluded. The costs associated with movements in production inventories are excluded from total cash costs. Gold ounces/kilograms produced are used as the denominator in the total cash costs per ounce/ kilogram calculation.

Changes in all-in sustaining costs per ounce/kilogram and cash costs per ounce/kilogram are affected by operational performance. In US dollar terms, these measures are also affected by the changes in the currency exchange rate between the Rand and the US dollar and, in the case of the Papua New Guinean operations, the Kina. All-in sustaining costs, all-in sustaining costs per ounce/kilogram, total cash costs and total cash costs per ounce/kilogram are non-GAAP measures. These measures should not be considered by investors in isolation or as an alternative to production costs, cost of sales, or any other measure of financial performance calculated in accordance with IFRS. In addition, the calculation of these measures may vary from company to company and may not be comparable to other similarly titled measures of other companies. However, we believe that all-in sustaining costs per ounce/kilogram and cash costs per ounce/kilogram are useful indicators to investors and management of a mining company's performance as they provide (i) an indication of the cash generating capacities of our mining operations, (ii) the trends in all-in sustaining costs and cash costs as the Company's operations mature, (iii) a measure of a company's performance, by comparison of cash costs per ounce/kilogram to the spot price of gold and (iv) an internal benchmark of performance to allow for comparison against other companies.

While recognizing the importance of reducing all-in sustaining costs and cash costs, our chief focus is on controlling and, where possible, reducing total costs, including overhead costs. We aim to control total unit costs per ounce/kilogram produced by maintaining our low total cost structure at our existing operations. We have been able to reduce total costs by implementing a management structure and philosophy that is focused on reducing management and administrative costs.

The following is a reconciliation of total all-in sustaining costs, as a non-GAAP measure, to the nearest comparable GAAP measure, cost of sales:

	Fiscal year ended June 30,		
	2019	2018	2017
	(in R millions, except for ounce/kilogram amounts)		
Total cost of sales - under IFRS	28,869	23,596	19,869
Depreciation and amortization expense	(4,054)	(2,570)	(2,519)
Rehabilitation costs	(33)	(67)	(23)
Care and maintenance costs of restructured shafts	(134)	(128)	(109)
Employment termination and restructuring costs	(242)	(208)	(74)
Share-based payments	(155)	(244)	(391)
Impairment	(3,898)	(5,336)	(1,718)
By-products credits	(766)	(93)	(230)
Other	33	63	58
Capitalized stripping	1,197	167	77
LED costs	99	62	64
Corporate, administration and other expenditure costs	603	582	430
Capital expenditure (OCD)	1,893	1,561	1,346
Capital expenditure (Exploration, abnormal expenditure and shaft capital)	1,101	771	677
Total all-in sustaining costs	24,513	18,156	17,457
Per kilogram calculation:			
Kilogram sold[1]	44,568	35,671	33,786
Total all-in sustaining costs per kilogram	550,005	508,970	516,687
Total all-in sustaining costs (US$ million)	1,729	1,412	1,284
Per ounce calculation:			
Ounces sold[1]	1,432,890	1,146,850	1,086,231
Total all-in sustaining costs per ounce	1,207	1,231	1,182

[1] No production for Hidden Valley was capitalized during the year ending June 2019. Excludes gold sold of 2,021 kilograms (64,976 ounces) that was capitalized in fiscal 2018 and 364 kilograms (11,713 ounces) from Hidden Valley that have been credited against the capitalized costs as part of the pre-stripping of stages 5 and 6.

The following is a reconciliation of total cash costs, as a non-GAAP measure, to the nearest comparable GAAP measure, cost of sales under IFRS:

	Fiscal year ended June 30,		
	2019	2018	2017
	(in R millions, except for ounce/kilogram amounts)		
Total cost of sales - under IFRS	28,869	23,596	19,869
Depreciation and amortization expense	(4,054)	(2,570)	(2,519)
Rehabilitation costs	(33)	(67)	(23)
Care and maintenance costs of restructured shafts	(134)	(128)	(109)
Employment termination and restructuring costs	(242)	(208)	(74)
Share-based payments	(155)	(244)	(391)
Impairment	(3,898)	(5,336)	(1,718)
By-product revenue	(766)	(93)	(230)
Other	(29)	52	7
Gold and uranium inventory movement	112	216	(187)
Total cash costs	19,670	15,218	14,625
Per kilogram calculation:			
Kilograms produced[1]	44,734	36,125	33,472
Total cash costs per kilogram	439,722	421,260	436,917
Total cash costs (US$)	1,387	1,184	1,075
Per ounce calculation:			
Ounces produced[1]	1,438,231	1,161,435	1,076,139
Total cash costs per ounce	965	1,018	1,000

[1] No production for Hidden Valley was capitalized during fiscal 2019. Excludes gold sold of 2,068 kilograms (6,499 ounces) that was capitalized in fiscal 2018 and 364 kilograms (11,713 ounces) in fiscal 2017 from Hidden Valley that have been credited against the capitalized costs as part of the pre-stripping of stages 5 and 6.

Within this report, our discussion and analysis is focused on the all-in sustaining costs and total cash costs measure.

Exchange Rates

Our revenues are very sensitive to the exchange rate of the Rand and other non-US currencies to the US dollar.

Currently, the majority of our earnings are generated in South Africa. Since gold is generally sold in US dollars, most of our revenues are received in US dollars. The average gold price received by us during fiscal 2019 before including the effect of the cash flow hedges increased by R39,113 per kilogram to R575,950 per kilogram from R536,837 per kilogram during fiscal 2018. Appreciation of the Rand against the US dollar decreases our revenues, which serves to reduce operating margins and net income from our South African operations. Depreciation of the Rand against the US dollar increases the revenue, which serves to increase operating margins and net income from our South African operations. Accordingly, strengthening of the Rand generally results in poorer earnings for us if there is not a similar increase in the gold price.

The exchange rates obtained when converting US dollars to Rand are determined by foreign exchange markets, over which we have no control. The spot rate as at June 30, 2019 was R14.13 per US$1.00, compared with R13.81 per US$1.00 as at June 30, 2018, reflecting a depreciation of 2% of the Rand against the US dollar. The average exchange rate for fiscal 2019 was R14.18 per US$1.00, reflecting depreciation of 10% of the Rand against the US dollar when compared with fiscal 2018.

Harmony has entered into foreign exchange hedging contracts in the form of zero cost collars, which establish a minimum (floor) and maximum (cap) Rand/US dollar exchange rate at which to convert US dollars to Rand. The Group also uses forward exchange contracts to manage the risks. At June 30, 2019, the nominal amount of the hedging contracts was US $414 million and is was over a 24-month period with a weighted average cap price of US$1=R15.74 and weighted average floor price of US$1=R14.92. Additionally, at June 30, 2019 Harmony had open forward exchange forward contracts which had a nominal amount of US$390 million spread over a 24-month period at an average exchange rate of US$1 = R15.35.

The majority of our working costs are incurred in Rand and, as a result of this, any appreciation of the Rand against the US dollar would increase our working costs when translated into US dollars. Depreciation of the Rand against the US dollar would cause a decrease in our costs in US dollar terms. Similarly, at our International operations, appreciation of the Australia dollar or Kina against the US dollar would cause an increase in our costs in US dollar terms. See Item 3: "*Key Information - Risk Factors - Foreign exchange fluctuations could have a material adverse effect on Harmony's operational results and financial condition*".

We have several credit facilities and loans denominated in US dollars. This exposes us to the changes in the Rand and Kina against the US dollar, which would affect the borrowing amount as well as the interest recognized. This will also affect the cash flows when the borrowings are raised and repaid as well as the payments of the interest.

The Bank of Papua New Guinea has weakened the Kina against the US dollar by approximately 40 basis points per month in fiscal 2017 and during fiscal 2018, the Kina weakened by 2%. In fiscal 2019, the Kina weakened further by 1%. Since the introduction of the trading band in June 2014 the Kina has weakened by 26% against the US dollar as at June 30, 2019. Should the trading band continue and depending on the level the exchange rate is set at, it could have a negative impact on the results of the Hidden Valley operation, as well as the cost of development at Wafi-Golpu and other PNG exploration sites.

Inflation

Our operations have been materially affected by inflation. Inflation in South Africa was 4.5% at the end of fiscal 2019, 4.4% at the end of fiscal 2018 and 5.1% at the end of fiscal 2017. Working costs, especially wages, have increased considerably over the past several years resulting in significant cost pressures for the mining industry. In addition, the effect on inflation of the increase in electricity tariffs of 4.4% in fiscal 2019, 5.2% in fiscal 2018 and 2.2% in fiscal 2017, together with an increase that is yet to be determined by Eskom in fiscal 2020, will have a negative effect on the profitability of our operations.

The inflation rate in PNG ended fiscal 2017 at 6.6% and 2018 at 4.7%, while the annualized inflation stood at 4.5% at the end of fiscal 2019.

Our profits and financial condition could be adversely affected if the cost inflation is not offset by a concurrent devaluation of the Rand and other non-US currencies and/or an increase in the price of gold. See Item 3: "*Key Information - Risk Factors-Harmony's operations may be negatively impacted by inflation*".

South African Socio-Economic Environment

We are domiciled and listed in South Africa and the majority of our operations are in South Africa. As a result, we are subject to various economic, fiscal, monetary and political policies and factors that affect South African companies generally. See Item 3: "*Key Information - Risk Factors - The socio-economic framework in the regions in which Harmony operates may have an adverse effect on its operations and profits*".

South African companies are subject to exchange control limitations. While exchange controls have been relaxed in recent years, South African companies remain subject to restrictions on their ability to deploy capital outside of the Southern African Common Monetary Area. See Item 10: "*Additional Information - D. Exchange Controls*".

SLPs have been developed for each of our South African operations. These SLPs are prepared in line with legislation governing the participation of HDSAs in mining assets.

We have been granted all of our mining licenses under the MPRDA. We have therefore already started to incur expenses relating to HDSA participation. We believe the biggest challenge will lie in maintaining these licenses, as we will have a responsibility in respect of human resource development, procurement and local economic development. We are unable, however, to provide a specific amount of what the estimated cost of compliance will be but we will continue to monitor these costs on an ongoing basis.

Electricity in South Africa

South African state utility, Eskom, generates approximately 90% of the electricity used in South Africa and approximately 40% of the electricity used in Africa. Eskom generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and redistributors. Although during fiscal 2018 and 2017, the electricity supply in South Africa had seen less pressure than the previous years, with reduced power interruptions (also referred to as load shedding), Eskom began load shedding again in March 2019.

The supply and demand for electricity is still very tight especially during the evening peak periods between 6:00 p.m. and 8:00 p.m. Harmony participates voluntarily in the Eskom Demand response program to reduce their demand during the said periods. Harmony has renewed its contract agreement with an Energy Service Company ("**ESCO**") to ensure that the various load clipping and load shifting projects savings are sustained. They will also assist with the implementation of new energy saving initiatives at the South African operations to reduce the electricity demand during morning and evening peaks. Harmony also benefits financially from this as the Eskom tariffs are more expensive during that period. We have been advised that the risk of having power outages will be mainly limited to the evening peak periods in the current situation.

The South African government remains committed to ensuring energy security for the country, through the roll-out of the independent power producer program as an integral part of the energy mix. It remains committed to ensuring the provision of reliable and sustainable electricity supply, as part of mitigating the risk of carbon emissions. See Item 3: "*Key Information - Risk Factors - Disruptions to the supply of electricity and increases in the cost of power may adversely affect our results of operations and financial condition*".

Renewable energy

Energy is the critical component of the country's future policy mix. Future supply of electricity will be influenced by the extent to which renewables, primarily wind, are efficient, sustainable and ensure security of electricity supply at a competitive economic prices.

Forecasts predict that renewable energy technologies, predominantly solar- and wind-based systems, will further grow in the coming decades, overcoming coal-based electricity around 2030 (IEA, 2015). South Africa is no exception and renewable energy has entered the country's electricity landscape as a significant trend.

Discussions around other technologies, such as gas-to-power and nuclear energy, are also adding to this dynamic. Significant vested interests are still at play alongside substantial state support to maintain the domination of the coal industry over the electricity supply industry in South Africa.

See "*Integrated Annual Report for the 20-F 2019 - Operating context-Social and ethics committee chairman's report*" on pages 145 to 147 and "*Integrated Annual Report for the 20-F 2019 - Managing our Social and Environmental Impacts-Environmental management and stewardship*" on pages 80 to 102.

Tariffs

Like all mining companies, Harmony is a major user of electricity, mostly supplied by Eskom. Energy is a significant and growing portion of our operating costs, given rising electricity tariffs. Electricity tariffs have more than doubled in the last 8 years. On December 18, 2017, NERSA granted Eskom an increase of 5.2% for the 2018/2019 financial year. In 2018, NERSA granted Eskom an additional 4.4% tariff increase adjustment for the 2019/2020 financial year. In March 2019, NERSA awarded Eskom tariff increases of 9.4% (effectively 13.8% when combined with the previously agreed 4.4%), 8.1% and 5.2% for the 2019/2020, 2020/2021 and 2021/2022 financial years, respectively. See Item 3: "*Key Information - Risk Factors - Disruptions to the supply of electricity and increases in the cost of power may adversely affect the results of our operations and our financial condition*".

Energy efficiency

Harmony has worked closely with Eskom to manage electricity use and peak demand, underlining our commitment to reduce energy consumption. This includes demand-side management ("**DSM**") strategies to reduce electricity consumption in peak periods; timing our pumping to coincide with cheaper off-peak periods, making more efficient use of Eskom tariffs that reward load-shifting, and improving the efficiency of pumping operations.

We have implemented various energy efficiency projects in recent years, resulting in an average load reduction of 35.8MW and energy savings of 314GWh. With little capital expenditure Harmony has with the assistance of an ESCO achieved a R81 million cost saving on new projects and a R56 million maintained cost saving from completed projects. The average weekday load reduction will be 9.4MW and the anticipated energy savings will the 6,981MWh per month.

We have implemented various energy efficiency projects in recent years. See "*Integrated Annual Report for the 20-F 2019 - Managing our Social and Environmental Impacts- Environmental management and stewardship* - " on pages 80 to 102.

Carbon tax

On June 1, 2019 the Carbon Tax Act became effective. The carbon tax has been designed to fix liability on the person who conducts an activity in South Africa that results in GHG emissions above a certain threshold. The carbon tax design requires the calculation of liability to be based on the sum of GHG emissions, which result from fuel combustion, industrial processes and fugitive emissions. Taxpayers must determine emissions in accordance with the reporting methodology approved by DEFF. The tax will be phased in over time. The first phase, which ends in 2022, is designed to largely be revenue-neutral in terms of its aggregated impact, given the complementary tax energy incentives and reduction or credit for the current electricity levy.

Based on published legislation, commentary and governmental information, carbon tax poses a low cost to Harmony until December 31, 2022. Gas emissions reported to the DEFF for a company's National Greenhouse Gas Emission Reporting submission will be taxed at a base value of R120 per tonne of carbon dioxide equivalent before allowances making effective tax rate R48 per tonne of carbon dioxide equivalent. From phase 2 onwards, carbon tax might also affect the price of electricity. The Carbon Tax Act is still unclear on various aspects including on how electricity costs will be impacted.

At this time it is not possible to determine the ultimate impact of the Carbon Tax Act on the Company. Nevertheless, Harmony has set its internal carbon price (for the South African operations) to match that of the proposed carbon tax. Harmony is at risk due to potential pass through costs from its suppliers in the short term from increased fuel prices.

Estimates have been included in the life-of-mine plans and resource base models used for impairments and affected the profitability of all operations, and in some cases, the impact was significant.

See Item 3: "*Compliance with emerging climate change regulations could result in significant costs for Harmony, and climate change may present physical risks to our operations*" for further discussion on the potential impact.

Results of Operations

Years Ended June 30, 2019 and 2018

Revenues

Revenue increased by R6,460 million mainly due to an 18% increase in gold sold and a R515 million increase in silver sales. The average gold price received increased by 3% to R586,653 per kilogram (from R570,709 per kilogram in fiscal 2018).

Increased gold and silver sales resulted mainly from the inclusion of Moab Khotsong for the full year as well as continuing production at Hidden Valley for the full year. Moab Khotsong recorded gold production of 7,928 kilograms at an average recovered grade of 8.17 gram per tonne for the first full year in which this operation was included in our portfolio. The inclusion of the Moab Khotsong surface sources for a full year also contributed to increased gold sales.

At Hidden Valley, excellent safety performance, good operational momentum and disciplined cost management contributed to the operation producing gold of 6,222 kilograms.

Furthermore, at Kusasalethu, kilograms sold increased by 17% to 5,028 during fiscal 2019 as a result of an 11% increase in tonnes milled to 742,000 tonnes and a 2% increase in recovered grade to 6.72 gram per tonne.

Offsetting the increase in gold sales were Tshepong, Bambanani and Masimong.

Tshepong Operations: Gold production decreased by 15% to 7 967kg due to a 10% decrease in the recovered grade to 4.94 gram per tonne and a 6% decrease in tonnes milled. The performance was impacted mainly by a lack of flexibility, a result of the decline in the availability of stoping panels to mine.

At Masimong, kilograms sold decreased by 12% to 2,291 during fiscal 2019, due to a 5% decrease in recovered grade to 3.84 gram per tonne and a 7% decrease in tonnes milled to 602,000 tonnes. The operation's performance was impacted by a reduction in higher grade B reef year on year.

At Bambanani, kilograms sold decreased by 11% to 2,495 during fiscal 2019, due to the 10% decrease in recovered grade to 10.93 gram per tonne. This is in line with an overall lower grade profile as the shaft pillar is extracted.

Cost of sales

Cost of sales includes production costs, depreciation and amortization, impairment of assets and share-based payments.

(a) Production costs (cash costs/all-in sustaining costs)

The following table sets out our total kilograms produced and weighted average cash costs per kilogram and total kilograms sold and weighted average all-in sustaining costs per kilogram for fiscal 2019 and fiscal 2018:

	Year Ended June 30, 2019				**Year Ended June 30, 2018**				**Percentage (increase)/ decrease**	
	Cash costs		**All-in sustaining costs**		**Cash costs**		**All-in sustaining costs**		**Cash costs per kg**	**All-in sustain-ing costs per kg**
	(kg pro-duced)	**(R/kg)**	**(kg sold)**	**(R/kg)**	**(kg pro-duced)**	**(R/kg)**	**(kg sold)**	**(R/kg)**		
South Africa										
Kusasalethu	4,989	476,417	5,028	556,621	4,429	472,177	4,301	554,302	(1)	—
Doornkop	3,273	486,795	3,255	572,132	3,429	413,586	3,404	508,065	(18)	(13)
Tshepong Operations.........	7,967	503,033	7,922	636,281	9,394	407,575	9,338	514,537	(23)	(24)
Moab Khotsong .	7,928	399,414	7,794	477,581	3,296	314,526	3,165	420,286	(27)	(14)
Masimong	2,309	525,703	2,291	593,408	2,623	442,586	2,609	513,197	(19)	(16)
Target 1	2,653	557,264	2,685	662,816	2,854	467,271	2,828	582,200	(19)	(14)
Bambanani	2,515	391,550	2,495	441,226	2,821	320,724	2,804	360,462	(22)	(22)
Joel	1,567	617,116	1,612	701,644	1,635	556,468	1,656	661,921	(11)	(6)
Unisel	1,212	469,108	1,207	523,823	1,280	604,311	1,272	678,436	22	23
Other - surface ..	4,099	473,954	4,087	500,426	3,570	429,304	3,552	470,458	(10)	(6)
International	[2]		[3]		[2]		[3]			
Hidden Valley[1] .	6,222	220,323	6,192	497,399	2,862	287,028	2,763	466,256	23	(7)
Total kg.............	44,734		44,568		38,193		37,692			
Weighted average[1].......		439,722		550,005		421,260		508,970	(4)	(8)

[1]Cash costs and all-in sustaining costs would have been R456,845 per kilogram and R567,192 per kilogram (2018: R423,695 per kilogram and R511,437 per kilogram) respectively had by-product credits of R766 million ,2018: R93 million) or R17,123 per kilogram produced, R17,187 per kilogram sold (2018: R2,435 per kilogram produced, R2,467 per kilogram sold) not been taken into account.

[2]Excludes 2,068 kilograms in fiscal 2018 that have been credited against the capitalized costs as part of the pre-stripping of stages 5 and 6. No production for Hidden Valley was capitalized during fiscal 2019.

[3] Excludes 2,021 kilograms in fiscal 2018 that have been credited against the capitalized costs as part of the pre-stripping of stages 5 and 6. No production for Hidden Valley was capitalized during fiscal 2019.

For further information about the use of Non-GAAP measures, see "*Operating and Financial Review and Prospects - Costs - Reconciliation of Non-GAAP Measures*" above.

Our average cash costs increased by 4%, or R18,462 per kilogram, from R421,260 per kilogram in fiscal 2018 to R439,722 per kilogram in fiscal 2019. Cash costs per kilogram vary with the working costs per tonne (which are, in turn, affected by the number of tonnes processed) and grade of ore processed. Operating costs increased by 29% from R15.2 billion in fiscal 2018 to R19.7 billion in fiscal 2019 mainly due to the inclusion of the Moab Khotsong operations for the full fiscal period as well as continuing production at Hidden Valley for the full year.

In fiscal 2019, Moab Khotsong produced 7,928 kilograms of gold at an average cash cost of R399,414 per kilogram while Hidden Valley produced 6,222 kilograms of gold at an average cash cost of R220,323 per kilogram.

At Tshepong Operations, cash cost increased by 23% from R407,575 per kilogram in fiscal 2018 to R503,033 per kilogram in fiscal 2019. The increase was mainly due to a 10% decrease in recovered grade to 4.94 gram per tonne and a 6% decrease in tonnes milled. The performance was impacted mainly by a lack of flexibility, a result of the decline in the availability of stoping panels to mine.

At Kusasalethu, cash cost per kilogram increased by 1% from R472,117 per kilogram to R476,417 per kilogram while all-in sustaining cost per kilogram remained stable in fiscal 2019. However, the 11% increase in tonnes milled to 742,000 tonnes resulted in a 7% increase in overall production costs.

At Doornkop, Masimong, Target 1, Bambanani and Joel cash costs and all-in sustaining costs per kilogram increased significantly due largely to increases in salary and wages and electricity tariffs coupled with lower production.

At Unisel, cash cost per kilogram decreased by 22% from R604,311 per kilogram to R469,108 per kilogram in fiscal 2019. The all-in sustaining cost per ounce decreased by 23% from R678,436 per kilogram to R523,823 per kilogram in fiscal 2019. The decrease is as a result of a 39% increase in recovered grade per tonne.

(b) Depreciation and amortization

Depreciation and amortization increased from R2.6 billion in fiscal 2018 to R4.1 billion in fiscal 2019 year owing mainly to full year production at Hidden Valley (R1.6 billion increase) as well as Moab Khotsong (R178 million increase) included for the full year. This was offset by decreases at operations where impairments had been recognized at the end of fiscal 2018.

(c) Impairment of assets

An impairment charge of R3.9 billion was recorded in fiscal 2019 compared to R5.3 billion in fiscal 2018. An increase in the planned long term gold price assumption was offset by an increase in costs (both working costs and capital expenditure), which was further compounded by the inclusion of carbon tax, in both the life-of-mine and resource base models. Although there was an increase in the Group's overall net present value of the life-of-mine models, the revision of the areas included in certain of the resource base models resulted in lower grades which negatively impacted on the cash flows and ultimately the recoverable amounts.

Assets of R2.3 billion were impaired on Tshepong Operations which has a recoverable amount of R5.9 billion. The impairment is due to the increased costs to exploit the resource base as well as a lower expected recovered grade.Kusasalethu recorded an impairment of R690 million and has a recoverable amount of R1.3 billion. A decrease in grade and increased estimated costs in the resource base resulted in a lower recoverable amount.Target 1 recorded an impairment of R312 million and has a recoverable amount of R1.1 billion. Increased costs and decrease in grade in the resource base together with the estimated impact of carbon tax resulted in a lower recoverable amount. The increase in discount rate due to increased risk factors also negatively impacted on the recoverable amount.Joel has a recoverable amount of R852 million. The increased capital costs in the resource base together with carbon tax negatively impacted the net present value of expected cash flows which resulted in an impairment of R198 million being recorded.

Bambanani has a recoverable amount of R763 million. The impairment of goodwill of R6 million reduced the carrying amount of intangible assets. As goodwill is not depreciated, it results in an impairment as the life of the operation shortens.

Target 3 remains under care and maintenance. A change in valuation method from discounted cash flow model to resource multiple approach which reduced the recoverable amount. An impairment of R318 million was recorded.Other mining assets recorded an impairment of R120 million. The updated life-of-mine plans for the cash generating units in Freegold and Avgold resulted in the impairment of other mining assets.

Gains on derivatives

Gains on derivatives amounted to R484 million in fiscal 2019, compared to R99 million in fiscal 2018. Gains on derivatives include the fair value movements of derivatives which have not been designated as hedging instruments for hedge accounting purposes, the amortization of day one gains and losses for derivatives and the hedging ineffectiveness. The day one adjustment arises from the difference between the contract price and market price on the day of the transaction.

Harmony maintains a foreign exchange hedging program in the form of zero cost collars, which establish a floor and cap US$/Rand exchange rate at which to convert US dollars to Rand, and forward exchange contracts. As hedge accounting is not applied, the resulting gains and losses have been recorded in gains on derivatives in the income statement. These gains amounted to R113 million in fiscal 2018 compared to R554 million in fiscal 2019.

Harmony maintains a hedging program for Hidden Valley by entering into commodity hedging contracts. The contracts comprise US$ gold forward sale derivative contracts as well as silver zero cost collars which establish a minimum (floor) and maximum (cap) silver sales price. Hedge accounting has been applied to US$ gold contracts entered into after January 1, 2019. R49 million was recorded in other comprehensive income with the unamortized portion of the day one loss being R5 million at June 30, 2019. For all other contracts, the resulting gains and losses are recorded in gains on derivatives in the income statement. The gain amounted to R13 million in fiscal 2019 compared to R35 million in fiscal 2018.

Harmony has entered into Rand gold forward sale derivative contracts to hedge the risk of lower rand/gold prices. Cash flow hedge accounting is applied to the majority of these contracts, resulting in the effective portion of the unrealized gains and losses being recorded in other comprehensive income (other reserves). During the 12 months ended June 30, 2019, the contracts that matured realized a gain of R453 million compared to a gain of R1.2 billion in fiscal 2018, which has been included in revenue. There was a negligible amount of ineffectiveness experienced in the periods presented. The unamortized portion of the day one gain or loss amounted to R36 million on June 30, 2019 (June 2018: R11 million). Losses from non-hedge accounted commodity contracts amounted to R51 million (June 2018: R12 million) and are included in gains on derivatives.

Other operating expenses

(a) *Foreign exchange translation*

A foreign exchange translation loss of R86 million was recorded during fiscal 2019 compared to a loss of R682 million in fiscal 2018. The change in fiscal 2019 and 2018 is driven primarily by the prevailing exchange rates at the draw-down and repayment dates of the US$ denominated loans as well as the exchange rate movements during the year. The Rand weakened against the US dollar by 10% from a closing rate of R13.81 in fiscal 2018 to R14.13 in fiscal 2019.

(b) *Silicosis settlement provision*

During fiscal 2019 the provision for Harmony's potential cost to settle the silicosis and tuberculosis class actions decreased by R62 million as a result of changes in estimates, compared with a decrease of R68 million in 2018.

Acquisition-related costs

Expenses of R98 million were incurred during fiscal 2018 related to direct costs of the Moab Khotsong operations acquisition. These expenses comprise mainly legal and consulting fees.

Finance costs

Finance costs increased by R245 million from R330 million in fiscal 2018 to R575 million during fiscal 2019, mainly as a result of new borrowings entered into during fiscal 2019 (see "- *Liquidity and Capital Resources - Outstanding Credit Facilities and Other Borrowings*" below).

Income and mining taxes

In fiscal 2018 and 2019, the tax rates for companies were 34% for mining income and 28% for non-mining income for South African companies and 30% for Australian companies and PNG mining companies.

	Fiscal year ended June 30,	
Income and mining tax	**2019**	**2018**
Effective income and mining tax rate	5%	5%

The effective tax rate for fiscal 2019 was lower than the mining statutory tax rate of 34% for Harmony and our subsidiaries as a whole, mainly due to the impairment processed during the year. The most significant items causing the Group's income tax provision to differ from the mining statutory tax rate are:

- Harmony company tax losses and deductible temporary differences for which future taxable profits are uncertain and not considered probable. This primarily relates to the provisions and foreign exchange losses on our US$ denominated loans. The amount decreased during fiscal 2019 as the translation loss decreased.
- Hidden Valley's and the PNG exploration operations' respective tax losses and deductible temporary differences arising in the year for which future taxable profits are not considered probable.
- No tax consequences relating to the impairment of assets for various operations.
- Rate differences related to the additional capital allowances that may be deducted from mining taxable income in South Africa, which mainly relates to Avgold Limited (which includes the Target 1 operation).

Deferred tax rates for the South African operations are calculated based on estimates of the future profitability of each ring-fenced mine when temporary differences will reverse. The future profitability of each ring-fenced mine, in turn, is determined by reference to the life-of-mine plan for that operation, which is based on parameters such as the Group's long term view of the US$ gold price and the Rand/US$ exchange rate, as well as the reserves declared for the operation. As some of these parameters are based on market indicators, they differ from one year to the next. In addition, the reserves may also increase or decrease based on updated or new geological information. Changes in the future profitability of each ring-fenced mine impact the deferred tax rates used to recognize temporary differences at these operations. See "-*Critical Accounting Policies and Estimates - Deferred taxes*" above. The decrease in deferred tax on temporary differences due to changes in estimated effective tax rates results primarily from a decrease in the effective deferred tax rate at Freegold (includes the Bambanani, Joel and Tshepong operations) and Moab Khotsong. The deferred tax rate at Freegold decreased from 8.7% in fiscal 2018 to 8.1% in fiscal 2019, Moab Khotsong decreased from 9.1% to 4.7% in fiscal 2019.These decreases are mainly due to lower estimated profitability.

South Africa. Generally, South Africa imposes tax on worldwide income (including capital gains) of all our South African incorporated tax resident entities at a rate of 28% on non-mining income. The South African entities pay taxes separately on mining income and non-mining income. The amount of our South African mining income tax is calculated on the basis of a gold mining formula that takes into account our total revenue and profits from, and capital expenditure for, mining operations in South Africa. 5% of total mining revenue is exempt from taxation in South Africa as a result of the application of the gold mining formula. The amount of revenue subject to taxation is calculated by deducting qualifying capital expenditures from taxable mining income. The amount by which taxable mining income exceeds 5% of mining revenue constitutes taxable mining income. We and our subsidiaries account for taxes separately that is determined in respect of each entity. Hence, South Africa does not make use of any group basis of taxation.

South Africa has a Controlled Foreign Company regime which effectively attributes certain types of passive income derived by offshore subsidiaries and imputes that income in taxable income as if it had been derived in South Africa under South African tax rules.

Australia. Generally, Australia also imposes tax on the worldwide income (including capital gains) of all of our Australian incorporated and tax resident entities. The current income tax rate for companies is 30%.

Harmony Gold (Australia) Proprietary Limited and its wholly-owned Australian subsidiary companies are recognized and taxed as a single entity, called a Consolidated Group. Under the Tax Consolidation rules all of the Australian subsidiary companies are treated as divisions of the Head Company, Harmony Gold Australia. As a result, inter-company transactions between group members are generally ignored for tax purposes. This allows the group to transfer assets between group members without any tax consequences, and deems all tax losses to have been incurred by the Head Company of the group.

PNG. PNG mining projects are taxed on a project basis. Therefore, each project is taxed as a separate entity, even though it may be one of a number of projects carried on by the same company. Capital development and exploration expenditure incurred in PNG is capitalized for tax purposes and can be deducted at 25% per annum on a diminishing value basis against project income, with the deduction being limited to the lesser of 25% of the diminished value or the income of the project for the year.

PNG mining companies are taxed at a rate of tax of 30%. Mining operations in PNG are subject to a 2% royalty and 0.25% Production Levy which are payable to the PNG Government.

Years Ended June 30, 2018 and 2017

Revenues

Revenue increased by 5%, from R19,494 million in fiscal 2017 to R20,452 million in fiscal 2018. This increase can mainly be attributed to a 10% increase in gold sales, from 34,150 kilograms in fiscal 2017 to 37,692 kilograms in fiscal 2018. The increase in kilograms is largely as a result of the acquisition of the Moab Khotsong operations as well as improvements at Doornkop, Target 1 and Tshepong Operations. In addition the increase in gold sales is further supplemented by the positive impact of the Rand gold hedges of R1,197 million.

The Moab Khotsong operations were acquired in March 2018 and sold 3,165 kilograms in the four months to June 2018.

At Doornkop, kilograms sold increased by 26% from 2,712 in fiscal 2017 to 3,404 in fiscal 2018. The recovery grade increased by 18% to 4.93 grams per tonne in fiscal 2018. The tonnes milled increased by 9%.

At Target 1, kilograms sold increased by 7% from 2,642 in fiscal 2017 to 2,828 in fiscal 2018. The recovery grade increased by 17% to 4.2 grams per tonne.

At Tshepong Operations, kilograms sold increased by 6% from 8,816 in fiscal 2017 to 9,338 in fiscal 2018. The recovery grade increased by 5% to 5.47 grams per tonne.

At Joel, kilograms sold decreased by 27% from 2,280 in fiscal 2017 to 1,656 in fiscal 2018. The recovery grade and tonnes milled decreased by 18% and 12% to 3.6 grams per tonne and 454 000 tonnes respectively in fiscal 2018. The decrease in production is as a result of a lack in flexibility in terms of available mining areas whilst the Joel decline project is in development. The Joel decline project is nearing completion and development in the footwall areas has commenced. Development is expected to continue for 12 to 18 months where after grades are expected to increase to reserve grade.

At Unisel, kilograms sold decreased by 20% from 1,590 in fiscal 2017 to 1,272 in fiscal 2018. The recovery grade and tonnes milled decreased by 16% and 5% to 3.4 grams per tonne and 376 000 tonnes respectively in fiscal 2018. During fiscal 2018 the Leader Reef was stopped to accelerate mining of the higher grade Basal Reef pillar areas.

Cost of sales

Cost of sales includes production costs, depreciation and amortization, (reversal of impairment)/impairment of assets and share-based payments.

(a) Production costs (cash costs/all-in sustaining costs)

The following table sets out our total kilograms produced and weighted average cash kilograms per ounce and total kilograms sold and weighted average all-in sustaining costs per ounce for fiscal 2018 and fiscal 2017:

	Year Ended June 30, 2018				Year Ended June 30, 2017				Percentage (increase)/ decrease	
	Cash costs		All-in sustaining costs*		Cash costs		All-in sustaining costs*			
	(kg pro-duced)	(R/kg)	(kg sold)	(R/kg)	(kg pro-duced)	(R/kg)	(kg sold)	(R/kg)	Cash costs per kilogram	All-in sustain-ing costs per kilogram
South Africa										
Kusasalethu	4,429	472,177	4,301	554,302	4,394	459,422	4,498	541,247	(3)	(2)
Doornkop	3,429	413,586	3,404	508,065	2,673	457,752	2,712	562,907	10	10
Tshepong Operations	9,394	407,575	9,338	514,537	8,828	416,493	8,816	507,368	2	(1)
Moab Khotsong	3,296	314,526	3,165	420,286	n/a	n/a	n/a	n/a	(100)	(100)
Masimong	2,623	442,586	2,609	513,197	2,538	439,457	2,539	500,938	(1)	(2)
Target 1	2,854	467,271	2,828	582,200	2,669	508,082	2,642	651,833	8	11
Bambanani	2,821	320,724	2,804	360,462	2,750	317,833	2,745	357,025	(1)	(1)
Joel	1,635	556,468	1,656	661,921	2,246	413,088	2,280	477,484	(35)	(39)
Unisel	1,280	604,311	1,272	678,436	1,595	525,732	1,590	591,913	(15)	(15)
Other - surface	3,570	429,304	3,552	470,458	3,178	434,031	3,209	476,431	1	1
International										
Hidden Valley[(1)]	2862	287,028	2763	466,256	2,965	466,847	3,119	543,186	39	14
Total operations	38,193		37,692		33,836		34,150			
Weighted average		421,260		508,970		436,917		516,687	4	1

1 Cash costs and all-in sustaining costs would have been R351,116 per kilogram and R534,777 per kilogram (2017: R547,320 per kilogram and R619,141 per kilogram) respectively had silver byproduct credits of R51 million (2017: R209 million) or R64,088 per kilogram produced, R68,521 per kilogram sold (2017: R80,472 per kilogram produced, R75,955 per kilogram sold) not been taken into account.

2 Excludes 2,068 kilograms in fiscal 2018 and 364 kilograms in fiscal 2017, that have been credited against the capitalized cost as part of the pre-stripping of stages 5 and 6.

3 Excludes 2,021 ounces in fiscal 2018 and 364 kilograms in fiscal 2017, that have been credited against the capitalized cost as part of the pre-stripping of stages 5 and 6.

For further information about the use of Non-GAAP measures, see *"Operating and Financial Review and Prospects - Costs - Reconciliation of Non-GAAP Measures"* above.

Our total average all-in sustaining costs per kilogram decreased by 1% from R516,687 per kilogram in fiscal 2017 to R508,970 per kilogram in fiscal 2018. Our average cash costs decreased by 4% from R436,917 per kilogram in fiscal 2017 to R421,260 per kilogram in fiscal 2018. Cash costs per kilogram vary with the working costs per tonne (which are, in turn, affected by the number of tonnes processed) and grade of ore processed. Total cash operating costs increased by 4%, mainly due to the inclusion of the Moab Khotsong operations during fiscal 2018. The increase in operating cost was offset by a 13% increase in kilograms produced which resulted in a 4% decrease in cash cost per kilogram for fiscal 2018.

At Joel, cash cost per kilogram increased by 35% from R413,088 per kilogram in fiscal 2017 to R556,468 per kilogram in fiscal 2018. The all-in sustaining cost per kilogram increased by 39% from R477,484 per kilogram in fiscal 2017 to R661,921 per kilogram in fiscal 2018. The increase was mainly due to a 27% decrease in gold produced and kilograms sold as a result of an 18% decrease in the recovered grade combined with a 12% decrease in tonnes milled.

At Unisel, cash cost per kilogram increased by 15% from R525,732 per kilogram to R604,311 per kilogram in fiscal 2018. The all-in sustaining cost also increased by 15% from R591,913 per kilogram to R678,436 per kilogram in fiscal 2018. The increase was mainly due to a 20% decrease in gold produced and kilograms sold as a result of a 16% decrease in the recovered grade combined with a 5% decrease in tonnes milled following the cessation of mining in the Leader Reef areas.

At Kusasalethu, cash cost per kilogram increased by 3% from R459,422 per kilogram to R472,177 per kilogram in fiscal 2018. The all-in sustaining cost increased by 2% from R541,247 per kilogram to R554,302 per kilogram in fiscal 2018. The increase was mainly due to a 4% increase in cash operating cost as a result of the increase in labor costs.

(b) Depreciation and amortization

Depreciation and amortization increased by 2% from R2.5 billion in fiscal 2018 to R2.6 billion, due primarily to the reduction in the reserve tonnes included in various life-of-mine plans.

(c) Impairment/(reversal of impairment) of assets

An impairment charge of R5.3 billion was recorded in fiscal 2018 compared to R1.7 billion in fiscal 2017. The lower increase in the forecasted gold price relative to the forecasted cost inflation used in the life-of-mine plans impacted negatively on margins.

Assets of R662 million and goodwill of R326 million was impaired on Tshepong Operations which has a recoverable amount of R7.4 billion. Assets of R119 million and goodwill of R41 million was impaired on Joel which has a recoverable amount of R876 million. The updated life-of-mine plans for Tshepong Operations and Joel presented a marginal decrease in recovered grade.

Target 1 recorded an impairment of R699 million and has a recoverable amount of R1.2 billion. Exploration drilling during the year resulted in lower grade estimates for certain blocks that had previously been included in the life-of-mine plan but have now subsequently been excluded from the life-of-mine plan.

Unisel recorded an impairment of R487 million and has a recoverable amount of R38 million. Masimong recorded an impairment of R329 million and has a recoverable amount of R58 million. The impairment at Unisel was driven by a reduced remaining life-of-mine and a focus on the higher grade Basal Reef, whilst the impairment at Masimong was as a result of the depletion of the higher grade B Reef and subsequent reduced life-of-mine plan.

Kusasalethu recorded an impairment of R579 million and has a recoverable amount of R2.1 billion. The old mine at the operation was excluded in the FY19 life-of-mine plan.

Doornkop recorded an impairment of R317 million and has a recoverable amount of R2.7 billion.

Target North recorded an impairment of R1.5 billion and has a recoverable amount of R3.7 billion. The impairments of Doornkop and Target North are primarily as a result of a decrease in resource values. During the year, the resource multiples were reassessed in order to be reflective of current market conditions using multiples derived from past transactions with an adjustment for the gold price. The transactions were used to derive US$/oz multiples for resources. The resource per ounce values have decreased substantially as a result of the decrease in the levels of merger and acquisition activity influencing the marketability of resource companies in South Africa, and more specifically gold mining companies.

Other mining assets recorded an impairment of R319 million and have a recoverable amount of R366 million. The updated life-of-mine plans for the CGU's in Freegold and Harmony resulted in the impairment of other mining assets.

Gains on derivatives

Gains on derivatives amounted to R99 million in fiscal 2018, compared to R1.0 billion in fiscal 2017. Gains on derivatives include the fair value movements of derivatives which have not been designated as hedging instruments for hedge accounting purposes, the amortization of day one gains and losses for derivatives and the hedging ineffectiveness. The day one adjustment arises from the difference between the contract price and market price on the day of the transaction.

Harmony maintains a foreign exchange hedging program in the form of zero cost collars, which establish a floor and cap US$/Rand exchange rate at which to convert US dollars to Rands, and foreign exchange forward contracts. As hedge accounting is not applied, the resulting gains and losses have been recorded in gains on derivatives in the income statement. These gains amounted to R113 million in fiscal 2018 compared to R1.1 billion in fiscal 2017. The fair value of the forex hedging contracts was R136 million negative as at June 30, 2018.

Harmony maintains a hedging program for Hidden Valley by entering into commodity hedging contracts. The contracts comprise US$ gold forward sale derivative contracts as well as silver zero cost collars which establish a minimum (floor) and maximum (cap) silver sales price. Hedge accounting is not applied and the resulting gains and losses are recorded in gains on derivatives in the income statement. The gain amounted to R35 million in fiscal 2018 compared to R20 million in fiscal 2017.

Harmony has entered into rand gold forward sale derivative contracts to hedge the risk of lower rand/gold prices. Cash flow hedge accounting is applied to the majority of these contracts, resulting in the effective portion of the unrealized gains and losses being recorded in other comprehensive income (other reserves). During fiscal 2018, the contracts that matured realized a gain of R1.2 billion which has been included in revenue. There was a negligible amount of ineffectiveness experienced in fiscal 2018. During fiscal 2017 total gains on these contracts amounted to R744 million. The effective portion of R728 million was included in revenue while the ineffective portion of R16 million was included in gains on derivatives. The unamortized portion of the day one gain or loss amounted to R11 million in fiscal 2018 and R34 million in fiscal 2017. The gains and losses from non-hedge accounted rand gold forward sale contracts are included in gains on derivatives.

Other operating expenses

(a) Loss on scrapping of property, plant and equipment

A negligible loss on scrapping was recorded during fiscal 2018 compared to a loss of R140 million during fiscal 2017. The 2017 loss relates to the abandonment of individual surface assets for which no future economic benefits are expected from their use or disposal.

(b) Foreign exchange translation

A foreign exchange translation loss of R682 million was recorded during fiscal 2018 compared to gain of R194 million in fiscal 2017. The change in fiscal 2018 relates to the translation of the US$ revolving credit facilities into Rand, which decreased from a gain of R215 million in fiscal 2017 to a loss of R669 million in fiscal 2018. The Rand weakened against the US dollar by 5% from a closing rate of R13.11 in fiscal 2017 to R13.81 in fiscal 2018.

(c) Silicosis settlement provision

A provision of R917 million was recognized during fiscal 2017 for Harmony's potential cost to settle the silicosis and tuberculosis class actions that have been instituted against it in South Africa. During fiscal 2018 the provision decreased by R68 million as a result of changes in estimates.

Acquisition-related costs

Expenses of R98 million were incurred during fiscal 2018 related to direct costs of the Moab Khotsong operations acquisition. These expenses comprise mainly legal and consulting fees.

Income and mining taxes

In fiscal 2017 and 2018, the tax rates for companies were 34% for mining income and 28% for non-mining income for South African companies and 30% for Australian companies and PNG mining companies.

	Fiscal year ended June 30,	
Income and mining tax	**2018**	**2017**
Effective income and mining tax rate	5%	347%

The effective tax rate for fiscal 2018 was lower than the mining statutory tax rate of 34% for us and our subsidiaries as a whole, mainly due to the impairment processed during the year. The impairment recognized is an outcome of forecast cost inflation, a subdued forecast gold price and the resultant impact on margins at the group's South African operations. Further contributing to the lower effective tax rate is a deferred tax credit following the decrease in the average deferred tax rates at the South African operations due to lower estimated profitability following the completion of the updated life-of-mine plans. The most significant items causing the group's income tax provision to differ from the mining statutory tax rate are:

- Harmony company tax losses and deductible temporary differences for which future taxable profits are uncertain and not considered probable. This primarily relates to the impairment of assets and foreign exchange losses on the US$ loan.
- Hidden Valley operation's and the PNG exploration operations' respective tax losses and deductible temporary differences arising in the year for which future taxable profits are not considered probable.
- No tax consequences relating to the impairment of assets for various operations.
- Rate differences related to the additional capital allowances that may be deducted from mining taxable income in South Africa, which mainly relates to Avgold Limited (which includes the Target 1 operation).

Deferred tax rates for the South African operations are calculated based on estimates of the future profitability of each ring-fenced mine when temporary differences will reverse. The future profitability of each ring-fenced mine, in turn, is determined by reference to the life-of-mine plan for that operation, which is based on parameters such as the Group's long term view of the US$ gold price and the Rand/US$ exchange rate, as well as the reserves declared for the operation. As some of these parameters are based on market indicators, they differ from one year to the next. In addition, the reserves may also increase or decrease based on updated or new geological information. Changes in the future profitability of each ring-fenced mine impact the deferred tax rates used to recognize temporary differences at these operations. See *"-Critical Accounting Policies and Estimates - Deferred taxes*" above. The decrease in deferred tax on temporary differences due to changes in estimated effective tax rates results primarily from a decrease in the effective deferred tax rate at Freegold (includes the Bambanani, Joel and Tshepong operations), Randfontein (consists of Doornkop and Kusasalethu) and Harmony (includes the Masimong, Unisel and Free State Surface operations). The deferred tax rate at Freegold decreased from 12.5% in fiscal 2017 to 8.7% in fiscal 2018, Randfontein decreased from 3.8% to 1.8% in fiscal 2018 and Harmony decreased from 19.4% in fiscal 2017 to 10.5% in fiscal 2018. These decreases are mainly due to lower estimated profitability.

South Africa. Generally, South Africa imposes tax on worldwide income (including capital gains) of all our South African incorporated tax resident entities at a rate of 28% on non-mining income. The South African entities pay taxes separately on mining income and non-mining income. The amount of our South African mining income tax is calculated on the basis of a gold mining formula that takes into account our total revenue and profits from, and capital expenditure for, mining operations in South Africa. 5% of total mining revenue is exempt from taxation in South Africa as a result of the application of the gold mining formula. The amount of revenue subject to taxation is calculated by deducting qualifying capital expenditures from taxable mining income. The amount by which taxable mining income exceeds 5% of mining revenue constitutes taxable mining income. We and our subsidiaries account for taxes separately that is determined in respect of each entity. Hence South Africa does not make use of any group basis of taxation.

South Africa has a Controlled Foreign Company regime which effectively attributes certain types of passive income derived by offshore subsidiaries and imputes that income in taxable income as if it had been derived in South Africa under South African tax rules.

Australia. Generally, Australia also imposes tax on the worldwide income (including capital gains) of all of our Australian incorporated and tax resident entities. The current income tax rate for companies is 30%.

Harmony Gold (Australia) Proprietary Limited and its wholly-owned Australian subsidiary companies are recognized and taxed as a single entity, called a Consolidated Group. Under the Tax Consolidation rules all of the Australian subsidiary companies are treated as divisions of the Head Company, Harmony Gold Australia. As a result, inter-company transactions between group members are generally ignored for tax purposes. This allows the group to transfer assets between group members without any tax consequences, and deems all tax losses to have been incurred by the Head Company of the group.

PNG. PNG mining projects are taxed on a project basis. Therefore, each project is taxed as a separate entity, even though it may be one of a number of projects carried on by the same company. Capital development and exploration expenditure incurred in PNG is capitalized for tax purposes and can be deducted at 25% per annum on a diminishing value basis against project income, with the deduction being limited to the lesser of 25% of the diminished value or the income of the project for the year.

PNG mining companies are taxed at a rate of tax of 30%. Mining operations in PNG are subject to a 2% royalty and 0.25% Production Levy which are payable to the PNG Government.

Export Sales

All of our gold produced in South Africa during fiscal 2017 to 2019 was refined by Rand Refinery Proprietary Limited ("**Rand Refinery**"). Rand Refinery is owned by a consortium of the major gold producers in South Africa and Harmony holds a 10.38% interest at June 30, 2019. Until March 31, 2019, all of our gold and silver produced in PNG was sold to The Perth Mint Australia, a Perth-based refinery. Since February 14, 2019, the metals have been sold to the Australian Bullion Corporation.

Recent Developments

See Item 4: "*Information on the Company - History and Development of the Company - Recent Developments - Developments since June 30, 2019*".

B. LIQUIDITY AND CAPITAL RESOURCES

We centrally manage our funding and treasury policies. There are no legal or economic restrictions on the ability of our subsidiaries to transfer funds to us. We have generally funded our operations and our short-term and long-term liquidity requirements from: (i) cash generated from operations; (ii) credit facilities and other borrowings; and (iii) sales of equity securities.

	Fiscal year ended June 30,		
	2019	2018	2017
	(R in millions)		
Operating cash flows	4,679	3,884	3,804
Investing cash flows	(4,797)	(8,075)	(3,383)
Financing cash flows	380	3,723	(450)
Foreign exchange differences	25	(72)	19
Total cash flows	287	(540)	(10)

Operations

Net cash provided by operations is primarily affected by the quantities of gold sold, the gold price, the Rand/US$ exchange rate, cash costs per ounce and, in the case of the International operations, the Australian dollar and PNG Kina versus US dollar exchange rate. A significant adverse change in one or more of these parameters could materially reduce cash provided by operations as a source of liquidity. Net cash generated by operations increased from R3.9 billion in fiscal 2018 to R4.7 billion in fiscal 2019. This is mainly due to the full year inclusion of the Moab Khotsong operations and Hidden Valley in fiscal 2019. Also contributing to the increase was the decrease in income and mining taxes paid of R55 million during fiscal 2019 from R307 million in fiscal 2018. Offsetting this was the increase in interest paid during fiscal 2019 to R387 million from R180 million paid in fiscal 2018.

Net cash generated by operations increased from R3.8 billion in fiscal 2017 to R 3.9 billion in fiscal 2018. This is mainly due to inclusion of the Moab Khotsong operations in fiscal 2018, offset by a temporary cut in production at Hidden Valley.

Investing

Net cash utilized by investing activities was R4.8 billion in fiscal 2019, a decrease from R8.1 billion in fiscal 2018. The decrease relates largely to the acquisition of the Moab Khotsong operations in fiscal 2018. Offsetting this is an increase in additions to property, plant and equipment of R474 million in fiscal 2019.

Net cash utilized by investing activities was R8.1 billion in fiscal 2018, an increase from R3.4 billion in fiscal 2017 primarily as a result of the acquisition of the Moab Acquisition. Also contributing was the additions to property, plant and equipment of R4.6 billion in fiscal 2018, compared with R3.9 billion in fiscal 2017.

Financing

Financing activities generated R380 million in fiscal 2019, compared with R3.7 billion in fiscal 2018. The decrease in cash generated from financing activities was primarily a result of our need to finance the Moab Acquisition in fiscal 2018. Dividends of R154 million were paid during fiscal 2018. The net of borrowings drawn (R1.5 billion) and borrowings repaid (R1.4 billion) during fiscal 2019 was R169 million whereas the net of borrowings drawn (R6.9 billion) and borrowings repaid (R4.1 billion) during fiscal 2018 was R2.9 billion. The issue of shares during fiscal 2019 raised a R211 million for the Group, compared with R1.0 billion in fiscal 2018.

Cash generated in financing activities amounted to R3.7 billion in fiscal 2018, an increase from R450 million utilized in fiscal 2017. Dividends of R439 million were paid during fiscal 2017 compared to R154 million paid during fiscal 2018. The net of borrowings drawn (R699 million) and borrowings repaid (R710 million) during fiscal 2017 was R11 million negative.

The issue of shares during fiscal 2018 of R1.0 billion further contributed to the financing activities in fiscal 2018. US$100 million of the consideration for the Moab Acquisition was funded from Harmony's US$350 million three-year syndicated term loan and revolving credit facilities. The remaining US$200 million was initially funded through Harmony's US$200 million one-year syndicated bridge facility as described below. Harmony repaid US$50 million of the bridge facility in April 2018 from operating cash flows. A further US$100 million of the bridge facility was repaid in June 2018 from the proceeds of the share issue and operating cash flows. The remaining outstanding balance of US$50 million on the US$200 million bridge loan was repaid in July 2018. See "- *Recently Retired Credit Facilities and Other Borrowings*" below.

Outstanding Credit Facilities and Other Borrowings

On July 28, 2017, we entered into a syndicated term loan and revolving credit facilities agreement in the amount of up to US$350 million, with Nedbank Limited, Absa Bank Limited, JP Morgan Chase Bank NA, Caterpillar Financial Services Corporation, HSBC Bank plc, State Bank of India, The Bank of China and Citibank, NA, with Nedbank Limited and Absa Bank Limited acting as arrangers, and Nedbank Limited acting as facility agent. The facility agreement allows the lenders to transfer their facility commitments. At year-end Federated Project and Trade Finance Core Fund (Federated Funds) had become party to the agreement. The US$350 million three-year syndicated term loan and revolving credit facility matures on July 28, 2020. Harmony drew down US$175 million (R2.3 billion) on the term facility in August 2017 and a further US$40 million (R547 million) and US$110 million (R1.3 billion) on the revolving facility in November 2017 and February 2018, respectively. During fiscal 2019, US$30 million (R422 million) of the loan was repaid, resulting in US$55 million (R777 million) remaining available on the revolving facility.

The key terms of the US$350 million three-year syndicated term loan and revolving credit facility are:

Term facility:	$175 million
Margin on term facility:	3.15% over 3 month LIBOR
Revolving facility:	$175 million
Margin on revolving facility:	3.00% over 3 month LIBOR
Maturity	Three years from close
Security	Certain shares and claims

On July 9, 2018, we entered into a four-year loan with Westpac - Bank - PNG - Limited in the amount of US$24 million (R322 million) to finance the acquisition of fleet equipment for the Group's Papua New Guinea operations. The US$24 million four-year loan is repayable in quarterly installments. During fiscal 2019, US$5 million (R64 million) was repaid on the loan.

The key terms of the US$24 million four-year loan are:

Facility:	$24 million
Margin on term facility:	3.2% over 3 month LIBOR
Maturity	Four years
Security	Certain vehicles and machinery

On November 8, 2018, Harmony concluded a four-year R2 billion facility with Nedbank and ABSA which consists of a R600 million term facility and a R1.4 billion revolving credit facility to replace the R1 billion revolving credit facility. As at June 30, 2019, R500 million was available on the revolving credit facility and Rnil was available on the term facility.

The key terms of the R2 billion four-year syndicated term loan and revolving credit facility are:

Term facility:	R600 million
Margin on term facility:	2.9% over 3 month JIBAR
Revolving facility:	R1.4 billion
Margin on revolving facility:	2.8% over 3 month JIBAR
Maturity	Four years from close
Security	Certain shares and claims

We need to comply with certain debt covenants for the US$350 million three-year syndicated term loan and revolving credit facility, the US$24 million four-year loan and the R2 billion four-year syndicated term loan and revolving credit facility.

The debt covenant tests are as follows:

The Group's interest cover ratio shall not be less than five (EBITDA[1]/Total interest paid).

Tangible net worth[2] to total net debt ratio shall not be less than 4 times or 6 times when dividends are paid.

Leverage[3] shall not be more than 2.5 times.

1 *EBITDA as defined in the agreement excludes unusual items such as impairment and restructuring cost.*

2 *Tangible net worth is defined as total equity less intangible assets.*

3 *Leverage is defined as total net debt to EBITDA.*

At the time of entering into the syndicated bridge facility, the tangible net worth to total net debt ratio covenant was renegotiated and relaxed from 6 times to 4 times for the full term of the bridge loan. With the refinancing of the R1 billion revolving credit facility in November 2018, the ratio was set at 4.5 times and subsequently set at 4 times or from 8 to 6 times when dividends are paid at the start of the US$ facility refinancing process in May 2019. See Item 4: "*Information on the Company - History and Development of the Company - Recent Developments - Developments since June 30, 2019*. No breaches of the covenants were identified during the tests in the 2018 and 2019 financial years.

Recently Retired Credit Facilities and Other Borrowings

On February 20, 2017, we entered into the R1 billion revolving credit facility with Nedbank Limited. Interest accrued at JIBAR plus a margin of 3.15% per annum, with quarterly commitment fee of 0.95%. The R1 billion revolving credit facility was to mature in February 2020. R500 million was drawn down in April 2018 and during fiscal 2019, the remaining R500 million on this facility was also drawn down. The loan was subsequently refinanced with the R2 billion four-year syndicated term loan and revolving credit facility, therefore being settled in November 2018.

On October 18, 2017, we entered into a syndicated bridge facility agreement in the amount of up to US$200 million with UBS Limited, Nedbank Limited, Absa Bank Limited and JP Morgan Securities Plc, with Nedbank Limited acting as facility agent. The syndicated bridge facility had a term of one year. Harmony drew down US$200 million (R2.3 billion) on this facility in February 2018. Harmony repaid US$50 million (R596 million) of the bridge facility in April 2018 from operating cash flows. A further US$100 million (R1.3 billion) of the bridge facility was repaid in June 2018 from the proceeds of an issue of new ordinary share and operating cash flows. Harmony repaid the final US$50 million (R670 million) from the proceeds of a placing of new ordinary shares to African Rainbow Minerals Limited as well as internal cash resources in July 2018. Margin on the facility was 2.5% - 3.5% over 3 month LIBOR.

Capital Expenditures

Total budgeted capital expenditures for fiscal 2020 are R4.9 billion. See Item 4: "*Information On The Company - Business Overview - Capital Expenditures" for* details regarding the budgeted capital expenditures for each operation. We currently expect that our planned operating capital expenditures will be financed from operations, including use of our current facilities, as described in "*-Outstanding Credit Facilities and Other Borrowings" above*, and new borrowings as needed.

The following table sets forth our authorized capital expenditure as of June 30, 2019:

	R'million
Authorized and contracted for[1]	418
Authorized but not yet contracted for	1,499
Total	**1,917**

[1] Including our share of the PNG joint operation's capital expenditure of R105 million.

Working Capital and Anticipated Financing Needs

The board believes that our working capital resources, by way of cash generated from operations, borrowings and existing cash on hand, are sufficient to meet our present working capital needs. The South African operations are generally expected to fund their capital internally. The Wafi-Golpu project in PNG is, however, expected to require additional capital expenditure over the next two to five years to complete construction, some of which will be funded from cash generated by operations and the balance by debt. We may also consider other options or structures to finance Wafi-Golpu. For more information on our planned capital expenditures, see "*-Capital Expenditure*" above. Also see *Item 3: "Risk Factors - Harmony's operations have limited proved and probable reserves. Exploration for additional resources and reserves is speculative in nature, may be unsuccessful and involves many risks"*. Our board believes that we will have access to adequate financing on reasonable terms given our cash-based operations and modest leverage. Our ability to generate cash from operations could, however, be materially adversely affected by increases in cash costs, decreases in production, decreases in the price of gold and appreciation of the Rand and other non-US dollar currencies against the US dollar. In addition, South African companies are subject to significant exchange control limitations, which may impair our ability to fund overseas operations or guarantee credit facilities entered into by overseas subsidiaries. See Item 10: *"Additional Information - D. Exchange Controls"*.

The information set forth under the heading:

- *" - Delivering profitable ounces - Operational performance"* on page 57 to 62

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

C: RESEARCH AND DEVELOPMENT, PATENTS AND LICENSES, ETC.

Not applicable.

D. TREND INFORMATION

The information set forth under the heading:

- *"- Delivering profitable ounces - Operational performance"* on pages 57 to 62 of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

E. OFF-BALANCE SHEET ARRANGEMENTS

Contractual obligations in respect of mineral tenement leases in PNG amount to R83 million at June 30, 2019.

F. TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

Our contractual obligations and commercial commitments consist primarily of credit facilities, post-retirement health care and environmental obligations.

Contractual Obligations on the Balance Sheet

The following table summarizes our contractual obligations as of June 30, 2019:

	Payments Due by Period				
	Total (R'million)	Less Than 12 Months July 1, 2019 to June 30, 2020 (R'million)	12-36 Months July 1, 2020 to June 30, 2022 (R'million)	36-60 Months July 1, 2022 To June 30, 2024 (R'million)	After 60 Months Subsequent June 30, 2024 (R'million)
Bank facilities[1]	6,686	483	5,111	1,092	—
Post-retirement health care[2]	201	—	—	—	201
Environmental obligations[3]	3,054	—	—	—	3,054
Total contractual obligations	**9,941**	**483**	**5,111**	**1,092**	**3,255**

1 See Item 5: *"Operating and Financial Review and Prospects - Liquidity and Capital Resources - Outstanding Credit Facilities and Other Borrowings"*. The amounts include the interest payable over the terms of the facilities. Where a variable rate is applicable, the rate at the reporting date has been used for the future periods.

2 This liability relates to post-retirement medical benefits of Freegold and Moab Khotsong employees at the time of acquisition as well as for former employees who retired prior to December 31, 1996 and is based on actuarial valuations conducted during fiscal 2019.

3 We make provision for environmental rehabilitation costs and related liabilities based on management's interpretations of current environmental and regulatory requirements. See Item 5: *"Operating and Financial Review and Prospects - Operating Results - Critical Accounting Policies and Estimates - Provision for environmental rehabilitation"*.

Commercial Commitments

The following table provides details regarding our commercial commitments as of June 30, 2019:

	Amount of Commitments Expiring by Period				
	Total (R'million)	Less Than 12 Months July 1, 2019 to June 30, 2020 (R'million)	12-36 Months July 1, 2020 to June 30, 2022 (R'million)	36-60 Months July 1, 2022 To June 30, 2024 (R'million)	After 60 Months Subsequent June 30, 2024 (R'million)
Guarantees[1]	622	—	—	—	622
Capital commitments[2]	1,917	1,917	—	—	—
Total commitments expiring by period	**2,539**	**1,917**	**—**	**—**	**622**

1 R479 million of these guarantees relate to our environmental and rehabilitation obligation.

2 Capital commitments consist only of amounts committed to external suppliers, although a total of R1.9 billion has been approved by the board for capital expenditures.

G. SAFE HARBOR

The information set forth under the heading *"Cautionary statement about forward-looking statements"* on page iii is incorporated herein by reference.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. DIRECTORS AND SENIOR MANAGEMENT

The information set forth under the heading:

- *"Board of directors" and "Executive management"* on pages 29 to 33

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

B. COMPENSATION

The information set forth under the heading:

- *"-Leadership and governance-Remuneration report"* on pages 121 to 139

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

C. BOARD PRACTICES

The information set forth under the headings:

- *"-Leadership and governance-Corporate governance"* on pages 104 to 120;
- *"-Leadership and governance-Remuneration report"* on pages 121 to 139; and
- *"-Leadership and governance-Audit and risk committee chairman's report"* on pages 140 to 144.

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

D. EMPLOYEES

The information set forth under the heading:

- *"-Ensuring employee safety and well-being-maintaining stability in our workplace"* on pages 33 to 56

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

E. SHARE OWNERSHIP

The information set forth under the heading:

- *"-Leadership and governance-Remuneration report"* on pages 121 to 139

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. MAJOR SHAREHOLDERS

We are an independent gold producer, with no single shareholder exercising control. As of October 17, 2019, our issued share capital consisted of 541,413,115 ordinary shares. To our knowledge, (a) we are not directly or indirectly owned or controlled: (i) by another corporation; or (ii) by any foreign government, and (b) there are no arrangements (including any announced or expected takeover bid), the operation of which may at a subsequent date result in a change in our control.

The voting rights of our major shareholders do not differ from the voting rights of other holders of the same class of shares.

Significant changes in the percentage ownership held by major shareholders in the past three years are described below under "-*Related Party Transactions*".

A list of the beneficial holders that hold 5% or more of our securities as of September 30, 2019 is set forth below:

Holder	Number of shares	Percentage
Deutsche Bank Trust Company Americas [1]	256,339,874	47.48%
African Rainbow Minerals Limited[2]	74,665,545	13.83%
Van Eck Global [3]	62,415,490	11.56%

1 Deutsche Bank Trust Company Americas has acted as the depositary ("Depositary") with respect to the ADSs evidenced by ADRs as of October 10, 2011. Holding disclosed represents outstanding ADRs on September 30, 2019.

2 Patrice Motsepe, our Chairman, has an indirect holding in African Rainbow Minerals Limited.

3 Van Eck Global's group holding is held in in the form of ADRs and is included in (1) above.

B. RELATED PARTY TRANSACTIONS

See note 34 "*Related Parties*", note 17 (b) "*Other non-current assets*", note 20 *"Investments in Associates"* and note 21 *"Investment in Joint Operations"* of our consolidated financial statements, set forth beginning on page F-1.

C. INTERESTS OF EXPERTS AND COUNSEL

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. CONSOLIDATED STATEMENTS AND OTHER FINANCIAL INFORMATION

Please refer to Item 18: *"Financial Statements and Item 3: "Key Information - Selected Financial Data"*.

Legal Proceedings

None of our properties is the subject of pending material legal proceedings. We have been involved in a number of claims and legal and arbitration proceedings incidental to the normal conduct of our business, such as the ones described below.

Silicosis (and other occupational diseases)

Consolidated class action

On August 23, 2012, Harmony and certain of its subsidiaries (Harmony defendants) were served with court papers in terms of which three former employees made application to the South Gauteng High Court to certify a class action for purposes of instituting action against the Harmony defendants. In essence, the applicants want the court to declare them as suitable members to represent a class of current and former mineworkers who have contracted occupational lung diseases for purposes of instituting a class action for certain relief, and to obtain directions from the court as to what procedure to follow in pursuing the relief required against the Harmony defendants. Similar applications were also brought against various other gold mining companies for similar relief during August 2012.

On January 8, 2013, the Harmony defendants, alongside other gold mining companies operating in South Africa (collectively the respondents), were served with another application to certify another class action. In this application, two classes of persons were sought to be established representing, firstly, a class of current and former mine workers who have silicosis (whether or not accompanied by any other disease) and who work or have worked on gold mines owned and/or controlled by the respondents, and secondly, a class of dependents of mine workers who have died as a result of silicosis (whether or not accompanied by any other disease) and who worked on gold mines owned and/or controlled by the respondents. The Harmony defendants opposed both applications.

Following receipt of the aforesaid application in 2013, the Harmony defendants were advised that there was a potential overlap between the application of August 23, 2012 and the application of January 8, 2013. On October 17, 2013, the five certification applications were consolidated by order of court.

The consolidated application was heard in October 2015. On May 13, 2016, the Gauteng Local Division of High Court, Johannesburg, ordered the certification of a class action consisting of current and former underground mineworkers who have contracted silicosis and dependents of underground mineworkers who have died of silicosis (silicosis class), and current and former underground mineworkers who have contracted TB, and the dependents of deceased underground mineworkers who died of TB (a tuberculosis class), which classes are to proceed as a single class action against the mining companies cited in the consolidated application. The High Court also ordered that any claimant who has a claim for general damages, and who dies before the finalization of his case, will have such general damages transmitted to the estate of the deceased claimant. The High Court did not make an order on the merits of the claimants' cases or any potential claims to be instituted by the mineworkers or their dependents.

On June 24, 2016, the High Court granted leave to appeal to the Supreme Court of Appeal against the order of transmissibility of general damages. The Harmony defendants submitted their notice of appeal in respect of the transmissibility of the general damages order to the Supreme Court of Appeal on July 25, 2016.

The mining companies, including the Harmony defendants, also requested leave to appeal from the Supreme Court of Appeal against the balance of the judgment and orders of the High Court certifying the class action in respect of the silicosis class and tuberculosis class. Leave to appeal to the Supreme Court of Appeal was granted on September 13, 2016. The Harmony defendants submitted their notice of appeal in respect of the remainder of the order certifying a class action in respect of the silicosis class and the tuberculosis class to the Supreme Court of Appeal on September 27, 2016.

The matter was set down to be argued in the Supreme Court of Appeal on March 19, 2018 to March 23, 2018. However, the parties agreed to postpone the matter to conclude settlement negotiations. The matter was subsequently settled on May 3, 2018. The terms of the settlement agreement are confidential. The settlement agreement must be made an order of court before it can be given effect to. Such an application to court will be brought within the near future.

Much of the remainder of 2018 was spent with the companies' and the claimants' legal representatives developing the comprehensive set of papers required for the court approval application. The application was to be dealt with in two stages. The first stage was an *ex parte* application which was heard on December 13, 2018. Following that hearing, the court issued an order setting out how members of the settling classes and other interested parties should be informed of the proposed settlement and how they may make representations to the Court regarding the settlement, should they wish.

The second stage of the approval application made provision for members of the settling classes and interested parties to make submissions to the Court, if they so wished, on the settlement. The hearing of the second stage of the approval application took place at the end of May 2019, where there were no notifications of objections to the settlement.

On July 26, 2019 the High Court granted an order approving the settlement agreement in terms of the draft order which the parties submitted to the Court on May 30, 2019. Currently, the parties are undergoing a period whereby members of the settling classes may indicate whether they wish to opt out of the settlement. The settlement agreement provides that any member of the settlement classes who doesn't opt out is automatically eligible to submit a claim in terms of the settlement.

In terms of the settlement, a settlement trust will be constituted. At inception, it is intended that the trust will be constituted by three company nominees, two claimants' attorney nominees, one government nominee and an independent trustee to be nominated jointly by the mining companies and the claimants' attorneys. The independent trustee will chair the trust for at least the first two years.

One of the trust's initiatives will be to facilitate the establishment of an advisory committee through which, it is envisaged, representatives of government, trade unions, NGOs, community leaders and others will be able to provide their expertise to the work of the trust.

Individual claims

During the period September 2011 to June 20, 2018, 12 individual actions were instituted against Harmony by former employees, or dependents of former employees, in which damages are claimed ranging from R500,000 (US$38,000) to R5 million (US$380,000), based on exchange rates when the claims were made, arising from the alleged contraction of silicosis, alleged exposure to blasting fumes and smoke, or the loss of support following medical incapacitation, or death, of former employees as a result of the alleged contraction of silicosis. All of these actions have since been withdrawn in light of the settlement agreement.

The Working Group

The Working Group was formed in fiscal 2014 to address issues relating to compensation and medical care for occupational lung disease in the South African gold mining industry. The Working Group, made up of African Rainbow Minerals Limited, Anglo American SA, AngloGold Ashanti Limited, Gold Fields Limited, Harmony and Sibanye Gold Limited, has had extensive engagements with a wide range of stakeholders since its formation, including government, organized labor, other mining companies and the legal representatives of claimants who have filed legal actions against the companies.

The members of the Working Group are among respondent companies in a number of legal proceedings related to occupational lung disease, including the class action referred to above. The Working Group is however of the view that achieving a comprehensive settlement which is both fair to past, present and future employees and sustainable for the sector, is preferable to protracted litigation. The Working Group will continue with its efforts to find common ground with all stakeholders, including government, labor and the claimants' legal representatives.

Provision for silicosis settlement

A provision of R917 million was recognized during fiscal 2017 for Harmony's potential cost to settle the silicosis and tuberculosis class actions that have been instituted against it in South Africa. At June 30, 2019 and June 30, 2018 the provision was R942 million and R925 million respectively, primarily due to the time value of money accretion. This was offset by the change in estimate due to the timing of cash flows.

The provision recorded in the financial statements is subject to adjustment or reversal in the future, depending on the progress of the ongoing legal proceedings.

See to Note 26 "*Provision for silicosis settlement"* of our consolidated financial statements set forth beginning on page F-1.

Watut River damage claims

Legal proceedings commenced in December 2010 against the Hidden Valley mine in PNG over alleged damage to the Watut River (which runs adjacent to the Hidden Valley mine), alleged to have been caused by waste rock and overburden run-off from the mine. The damages sought by the plaintiffs were not specified. The defendants intend to defend the claims. No active steps have been taken by the plaintiffs in this proceeding for more than five years. It is not practicable to make any reasonable assessment of the prospects of the plaintiffs succeeding should they proceed with these claims, nor the potential liability of the defendants if the plaintiffs were to succeed. As a result, no provision has been recognized in the financial statements for this matter. On May 16, 2019 the legal proceedings against the Hidden Valley mine in PNG over alleged damage to the Watut River were formally dismissed for want of prosecution under the National Court Rules of PNG.

B. SIGNIFICANT CHANGES

See Item 4: "*Information on the Company - History and Development of the Company - Recent Developments - Developments since June 30, 2019.*"

ITEM 9 THE OFFER AND LISTING

A. OFFER AND LISTING DETAILS

The principal trading market for our ordinary shares is the JSE, where they trade under the symbol "HAR". Our ordinary shares trade on the NYSE in the form of ADSs, under the symbol "HMY".

B. PLAN OF DISTRIBUTION

Not applicable.

C. MARKETS

The Securities Exchange in South Africa

The JSE is the premier stock exchange in Africa and is based in South Africa where it has operated as a marketplace for the trading of financial products for 130 years.

The JSE connect buyers and sellers in a variety of financial markets that include equities and equity derivatives, commodity derivatives, currency derivatives and interest rate instruments. It is one of the top 20 exchanges in the world in terms of market capitalization and a member of the World Federation of Exchanges.

The market capitalization of the JSE equities index (FTSE/JSE Africa All Shares Index) was R13,728 billion (US$973 billion) at June 30, 2019. The JSE mining index (FTSE/JSE Africa Mining Index) market capitalization was R2,817 billion (US $200 billion)[1] at June 30, 2019, 20.5% of the overall JSE market capitalization.

[1] Source: Bloomberg

Strate Settlement

Under Strate, South Africa's Central Securities Depository ("**CSD**"), there are essentially two types of clients: controlled and non-controlled. A controlled client is one who elects to keep his shares and cash with his broker and these shares are held in custody at the broker's chosen Custodian Bank, the CSD Participant ("**CSDP**"). A non-controlled client is one who appoints his own CSDP to act as custodian on his behalf. Equity settlements take place on a contractual T+3 (where T= trade date) settlement cycle. Securities and funds become due for settlement three business days after the trade. Contractual settlement is a market convention embodied in the rules of the JSE which states that a client has a contractual obligation to cause a JSE trade to settle on settlement day. The JSE, in its capacity as Settlement Authority, ensures that all on-market trades entered into by two JSE member firms settle three days after the trade date.

D. SELLING SHAREHOLDERS

Not applicable.

E. DILUTION

Not applicable.

F. EXPENSES OF THE ISSUE

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

A. SHARE CAPITAL

Not applicable.

B. MEMORANDUM OF INCORPORATION

Information on our Memorandum of Incorporation can be found in Exhibit 1.1 filed with this Harmony 2019 Form 20-F.

Voting Rights

There are no limitations imposed by South African law or by our charter on the right of non-resident or foreign owners to hold or vote our ordinary shares.

C. MATERIAL CONTRACTS

R2 Billion Four-year Syndicated Term Loan and Revolving Credit Facility

On November 8, 2018, Harmony, as borrower, entered into a R2 billion four-year syndicated term loan and revolving credit facility with Nedbank Limited and ABSA Bank Limited. The R2 billion four-year syndicated term loan and revolving credit facility matures in November 2022.

The term facility bears interest at 2.90% over three month JIBAR; the revolving facility bears interest at 2.80% over three month JIBAR.

The R2 billion four-year syndicated term loan and revolving credit facility is secured by a cession and pledge over all the shares and claims in certain operating subsidiaries in the Group.

The outstanding balance under the term facility at June 30, 2019 was R600 million. The outstanding balance under the revolving facility at June 30, 2019 was R900 million.

US$24 Million Four-year Loan

On July 9, 2018, Harmony, as a borrower, entered into a loan to finance its new fleet in Hidden Valley with Westpac - Bank - PNG - Limited. The loan is repayable in quarterly installments and matures in July 2022.

The US$24 million four-year loan bears interest at 3.20% over three month LIBOR. The loan is secured by a cession and pledge of vehicles and machinery purchased. The outstanding balance under the loan at June 30, 2019 was R283 million.

Sale Agreement

On October 18, 2017, Harmony entered into a share and asset sale and purchase agreement with AngloGold Ashanti Limited and Coreland Property Investment Company Proprietary Limited (now known as Harmony Moab Khotsong Operations Proprietary Limited) to acquire the Moab Khotsong and Great Noligwa mines, together with certain long life projects and tailings dams for consideration of US$300 million in cash, which was paid in full without any post-closing adjustment. The Moab Acquisition was completed with effect from March 1, 2018.

US$350 Million Three-year Syndicated Term Loan and Revolving Credit Facility

On July 28, 2017, Harmony, as borrower, entered into the US$350 million three-year syndicated term loan and revolving credit facility with Nedbank Limited, Absa Bank Limited, JP Morgan Chase Bank NA, Caterpillar Financial Services Corporation, HSBC Bank plc, State Bank of India, The Bank of China and Citibank, NA, with Nedbank Limited and Absa Bank Limited acting as arrangers, and Nedbank Limited acting as facility agent. The facility agreement allows the lenders to transfer their facility commitments. At year-end Federated Project and Trade Finance Core Fund (Federated Funds) had become party to the agreement. The $350 million three-year syndicated term and revolving credit facility matures on July 28, 2020.

Under the terms of the US$350 million three-year syndicated term loan and revolving credit facility, Harmony agreed to apply all amounts borrowed by it to repay outstanding liabilities under the US$250 million revolving credit facility entered into in December 2014 and to fund the Group's exploration activities, feasibility costs, capital costs, operational costs, other corporate expenses and costs relating to other strategic objectives outside of South Africa.

The term facility bears interest at 3.15% over three month LIBOR; the revolving facility bears interest at 3.00% over three month LIBOR.

The US$350 million three-year syndicated term loan and revolving credit facility is secured by a cession and pledge over all the shares and claims in certain operating subsidiaries in the Group.

The outstanding balance under the term facility at June 30, 2019 was US$175 million (R2,472 million). The outstanding balance under the revolving facility at June 30, 2019 was US$120 million (R1,695 million).

Syndicated Bridge Facility

On October 18, 2017, Harmony, as borrower, entered into a syndicated bridge facility agreement in the amount of up to US$200,000,000 with UBS Limited, Nedbank Limited, Absa Bank Limited and JP Morgan Securities Plc, with Nedbank Limited acting as facility agent. The syndicated bridge facility has a term of one year.

Under the terms of the syndicated bridge facility, Harmony has agreed to apply all amounts borrowed by it directly or indirectly to fund the Moab Acquisition, including all fees, costs and expenses, stamp, registration and other Taxes incurred by Harmony in connection with the Acquisition.

The syndicated bridge facility bears interest at LIBOR plus a margin calculated as follows:

- 2.5% per annum from October 18, 2017 to, but excluding, the date that is six months after October 18, 2017 (the "F**irst Margin Step-up Date**");
- 3.0% per annum from the First Margin Step-up Date to, but excluding, the date falling three months after the First Margin Step-up Date (the "**Second Margin Step-up Date**"); and
- 3.5% per annum from the Second Margin Step-up Date until the date that is twelve months after October 18, 2017.

The syndicated bridge facility was secured by (i) a cession in security given by Harmony over shares in, and loan claims against, Coreland Property Investment Company Proprietary Limited (now known as Harmony Moab Khotsong Operations Proprietary Limited) and (ii) a cession in security given by Harmony over shares in any loan claims against Harmony BEE SPV Proprietary Limited.

Borrowings under the syndicated bridge facility are guaranteed by Coreland Property Investment Company Proprietary Limited (now known as Harmony Moab Khotsong Operations Proprietary Limited).

The outstanding balance under the syndicated bridge facility at June 30, 2018 was US$50 million. All amounts outstanding were repaid in July 2018.

R1 Billion Revolving Credit Facility

On February 20, 2017 Harmony, as borrower, entered into R1 billion revolving credit facility with Nedbank Limited. The R1 billion revolving credit facility amended and restated the R1.3 billion agreement revolving credit facility agreement entered into on or about December 20, 2013, as amended and restated on or about February 5, 2015 and on or about June 30, 2016, and as further amended on or about December 23, 2016. Interest accrues at JIBAR plus a margin of 3.15% per annum, with a quarterly commitment fee of 0.95%. The Rand revolving credit facility matures in February 2020.

Under the terms of the R1 billion revolving credit facility , Harmony agreed to apply all amounts borrowed by it to repay outstanding liabilities under the R2.25 billion facility entered into in December 2009 and for ongoing general corporate costs, working costs and working capital requirements of the Group.

The R1 billion revolving credit facility was secured by a cession and pledge over all the shares and claims in certain operating subsidiaries in the Group.

The outstanding balance of R1 billion was refinanced through the R2 billion four-year syndicated term loan and revolving credit facility in November 2018.

D. EXCHANGE CONTROLS

Introduction

The following is a general outline of South African exchange controls. Investors should consult a professional adviser pertaining to the exchange control implications of their particular investments.

The Republic of South Africa's exchange control regulations provide for restrictions on the exportation capital from a Common Monetary Area member, consisting of South Africa, the Republic of Namibia and the Kingdoms of Lesotho and Swaziland. Transactions between South African residents (including corporations) and foreigners are subject to these exchange controls, which are administered by the Financial Surveillance Department of the South African Reserve Bank ("**SARB**").

Since 1995 a number of exchange control regulations have been relaxed with regard to both residents and non-residents. Following the initial reforms, ongoing relaxations have been introduced with the aim of achieving a macroprudential risk based approach to the management of foreign exchange. The reforms are being made to, among other things, enable international firms to make investments through South Africa to the rest of Africa and to further enhance opportunities for offshore portfolio diversification for resident investors. In addition, the relaxations have also significantly raised the size of the discretionary allowances available to residents for overseas transactions.

A considerable degree of flexibility is built into the system of exchange controls, and the SARB possesses substantial discretionary powers in approving or rejecting the applications that fall outside the authority granted to authorized dealers.

These comments relate to exchange controls in force at June 30, 2019. These controls are subject to change at any time, however, the government has previously announced most changes during the annual budget statement in February. It is not possible to predict whether existing exchange controls will be changed or relaxed by the South African government in the future.

Government Regulatory Considerations

Shares

A foreign investor may invest freely in shares in a South African company, whether listed on the JSE or not, through normal banking channels against settlement in foreign currency or Rand from a non-resident Rand account. A foreign investor may also sell his or her share investment in a South African company and transfer the proceeds out of South Africa without restriction. However, when the Company is not listed on the JSE, the SARB must be satisfied that the sale price of any shares reflects fair market value.

Under present South African exchange control regulations, our ordinary shares and ADSs are freely transferable outside the Common Monetary Area between non-residents of the Common Monetary Area. No prior SARB approval is required for the transfer of proceeds to South Africa, in respect of shares listed on the JSE, provided these funds enter the country through the normal banking channels. In addition, the proceeds from the sale of ordinary shares on the JSE on behalf of those holders of ordinary shares who are not residents of the Common Monetary Area are freely remittable to those holders. Share certificates and warrant certificates held by non-residents will be endorsed with the words "non-resident."

Loans

Generally, the granting of loans to us or our subsidiaries, and our ability to borrow from non-South African sources and the repatriation of dividends, interest and royalties by us will be regulated by the Exchange Control Department of the SARB. If a foreign investor wishes to lend capital to a South African company, the prior approval of the SARB must be sought mainly in respect of the interest rate and terms of repayment applicable to such loan.

Interest on foreign loans is subject to a withholding tax of 15% and freely remittable abroad, provided the loans received prior approval from the SARB. However, this rate may be reduced depending on the applicability of a double taxation treaty.

Investments

We are required to seek approval from the SARB to use funds held in South Africa to make investments outside of South Africa.

Dividends

Dividends declared by a listed company are subject to a withholding tax of 20% and freely transferable out of South Africa from both trading and non-trading profits earned in South Africa through a major bank as agent for the SARB to non-resident shareholders. However, this rate may be reduced depending on the applicability of a double taxation treaty.

Where 75% or more of a South African company's capital, voting power, power of control or earnings is directly or indirectly controlled by non-residents, such a company is designated an "affected person" by the SARB, and certain restrictions are placed on its ability to obtain local financial assistance. We are not, and have never been, designated an "affected person" by the SARB.

If an affected entity made use of local borrowing facilities, the affected entity must apply for SARB approval prior to remitting dividends offshore. As a general rule, an affected entity that has accumulated historical losses may not declare dividends out of current profits unless and until such time that the affected entity's local borrowings do not exceed the local borrowing limit.

E. TAXATION

Certain South African Tax Considerations

The summary set out in this section is based on current law and our interpretation thereof. Amendments to the law may change the tax treatment of acquiring, holding or disposing of our ordinary shares or ADSs, as applicable, which changes may possibly occur on a retrospective basis. The following summary is not a comprehensive description of all of the tax considerations that may be relevant to a decision to purchase, own or dispose of our ordinary shares or ADSs, and does not cover the tax consequences that depend upon your particular tax circumstances. This summary is not intended to constitute tax advice. This summary does not address the foreign tax consequences for person that are not residents of South Africa and specifically excludes the tax consequences for persons who are not residents of South Africa whose holding of shares or ADSs is effectively connected with a permanent establishment in South Africa through which the holder carries on business activities, or who is not the beneficial recipient of the dividends, or where the source of the transaction or dividends is deemed to be in South Africa. In addition, it does not cover the tax consequences for a holder that is not entitled to the benefits of the double taxation agreement concluded between the Republic of South Africa and the United States of America signed on February 17, 1997 ("**US Treaty**"). It also assumes that the holders hold the ordinary shares or ADSs on capital account (that is, for investment purposes) as opposed to on revenue account (that is for speculative purposes or as trading stock). Recently the Supreme Court of Appeal in South Africa indicated that gains will be on revenue account if they are derived as part of a business in carrying out a scheme of profit making. We recommend that you consult your own tax adviser concerning the consequences of holding our ordinary shares or ADSs, as applicable, in your particular situation.

Dividends

With effect from April 1, 2012, South Africa introduced a Dividends Tax, which is a withholding tax on dividends borne by the shareholder receiving the dividend. The rate at which Dividends Tax is levied is 20% effective from 22 February 2017 (previously 15%). Dividends Tax is imposed on, amongst others, non-resident shareholders, and it is withheld by the company declaring and paying the dividend to its shareholders or the regulated intermediary, as the case may be, as a withholding agent. Dividends tax is not payable to the extent that the recipient is, amongst others, a South African resident company that has provided the relevant declaration and undertaking to the company declaring and paying the dividend.

Article 10 of the US Treaty provides that a dividend paid by a company that is a resident of South Africa for tax purposes to a resident of the US for tax purposes may be taxed in the US. Article 10 of the US Treaty further provides that such a dividend may also be taxed in South Africa. However, the tax charged in South Africa may not exceed 5% of the gross amount of the dividends if the beneficial owner is a company that holds directly at least 10% of the voting stock of the South African company paying the dividends. In all other cases, the US Treaty provides for a withholding tax of 15% of the gross amount of the dividends.

With effect from January 1, 2012 it is deemed that an amount will be derived by a person from a source within South Africa if the amount constitutes a dividend received by or accrued to that person. Residents of the US can make use of the lower rate as provided for in the US Treaty if the relevant declaration and undertaking are provided to Harmony beforehand. It was recently proposed that the declaration and undertaking should be renewed at least on a two-yearly basis. No time limitation will be imposed on the validity of the declarations and undertakings if a regulated intermediary applies the Financial Intelligence Centre legislation or the common reporting standard regulations in relation to the declarations.

Capital Gains Tax

Capital Gains Tax ("**CGT**") was introduced in South Africa with effect from October 1, 2001. In the case of an individual, 40% in respect of years of assessment commencing 1 March 2016 (previously 33.3%) of the capital gain is included in the individual's taxable income (effectively 18%) should the individual pay tax at the marginal rate of 45% from 1 March 2017). In the case of a corporate entity or trust, 80% in respect of years of assessment commencing 1 March 2016 of such gain is included in its taxable income (effectively a rate of 22.4%) for a corporate entity and 36% for a trust). CGT is only applicable to non-residents if the proceeds from the sale are sourced in South Africa or are attributable to a permanent establishment of the non-resident shareholder. The US Treaty (which will prevail in the event of a conflict) provides that the US holder of ordinary shares or ADSs will not be subject to CGT if the assets have been held as capital assets, unless they are linked to a permanent establishment of such non-resident shareholder in South Africa. To the extent that shares or ADSs are held on revenue account, a similar principle applies with reference to the payment of income tax. Subject to Article 13 of the US Treaty (as indicated below) income tax is only payable to the extent that the gain is attributable to the carrying on of a business in South Africa through a permanent establishment situated in South Africa. The current corporate rate is equal to 28%. Any gains realized on the disposal of equity shares are automatically deemed to be of a capital nature if the equity shares have been held for a continuous period of at least three years. Such provision applies automatically and is not elective. However, this deeming provision does not include an ADS.

Generally the domestic laws of South Africa provide that an amount received or accrued in respect of the disposal of an asset that constitutes immovable property held by that person or any interest or right of whatever nature of that person to or in intellectual property where that property is situated in South Africa is deemed to have been sourced in South Africa and be subject to South African tax. It includes the disposal of any equity shares held by a person in a company if:

- 80% or more of the market value of the equity shares, ownership or right to ownership or vested interest, as the case may be, at the time of disposal thereof is attributable directly or indirectly to immovable property held otherwise than as trading stock; and
- the person directly or indirectly holds at least 20% of the equity shares in the company or ownership or right to ownership of the other entity.

The provisions of the US Treaty override the deemed source rules to the extent applicable. Article 13 of the US Treaty provides that South Africa is entitled to tax a gain that is attributable to the alienation of real property situated in South Africa, which concept includes the equivalent of a US real property interest, even if held through means of shares.

Securities Transfer Tax

Securities Transfer Tax ("**STT**") is payable in respect of the transfer of any security issued by a South African company. STT is levied at a rate of 0.25% of the taxable amount of the security concerned (generally the market value). A security is defined to include a depository receipt in a company, in addition to shares in a company. STT is not payable on the issue of any security.

Although ADSs in respect of our shares are not listed on the JSE, reference is specifically made to the transfer of depository receipts in a South African company. As a consequence, STT will therefore be payable on the transfer of ADSs. In addition, the process of depositing shares listed on the JSE in return for ADSs, or withdrawing such shares from the deposit facility, may attract STT as and when the shares are transferred to or from the depository institution.

STT is payable by the broker or participant if a transaction is effected through a stockbroker or an exchange participant, but it may be recovered from the person acquiring the beneficial ownership of the rights concerned. In other instances, STT is payable by the person acquiring beneficial ownership.

STT is also payable on the subsequent redemption or cancellation of shares or ADSs.

Interest

South Africa has imposed a withholding tax on interest paid by any person to or for the benefit of any foreign person to the extent that the interest is regarded as having been received or accrued from a source within South Africa at the rate of 15% with effect from March 1, 2015. In terms of the US Treaty this rate is reduced to zero. However, the rate may change to 5% or 10% once the US Treaty is renegotiated. US residents can only make use of the lower rate as provided for in the US Treaty if the relevant declaration and undertaking are provided to the company paying the interest. This declaration and undertaking may also have to be renewed on a two-yearly basis except in the circumstances as indicated below with reference to the payment of dividends tax.

Withholding tax on Service Fees

The proposed withholding tax on service fees at the rate of 15% was withdrawn in the 2016 Budget. The withholding tax on service fees has apparently introduced unforeseen issues, including uncertainty on the application of domestic tax law and taxing rights under tax treaties. The withholding tax on service fees is now dealt with on the basis that these types of arrangements must be reported. Transactions between residents and non-residents must thus be reported if they relate to consultancy, construction, engineering, installation, logistical, managerial, supervisory, technical or training services, in circumstances where the expenditure exceeds or is anticipated to exceed R10 million in aggregate and does not otherwise qualify as remuneration.

Capitalization Shares

Capitalization shares issued to holders of shares in lieu of cash dividends are currently not subject to Dividends Tax. However, these shares have a base cost of zero for income tax purposes.

Certain Material United States Federal Income Tax Considerations

The following is a discussion of certain material US federal income tax consequences of acquiring, holding and disposing of the ordinary shares (for purposes of this summary, references to the ordinary shares include the ADSs, unless the context otherwise requires).

You will be a "**US holder**" if you are a beneficial owner of ordinary shares and you are:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for US federal income tax purposes) organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate whose income is subject to US federal income tax regardless of its source; or
- a trust if: (i) a US court can exercise primary supervision over the trust's administration and one or more US persons are authorized to control all substantial decisions of the trust or (ii) it has a valid election in effect under applicable US Treasury regulations to be treated as a US person.

This summary only applies to US holders that hold ordinary shares or ADSs as capital assets. This summary is based on the US Internal Revenue Code of 1986, as amended, (the "**Code**"), its legislative history, existing and proposed US Treasury regulations, published Internal Revenue Service ("**IRS**") rulings, the US Treaty and court decisions that are now in effect, any and all of which are subject to differing interpretations and which could be materially and adversely changed. Any such change could apply retroactively and could affect the continued validity of this summary. This summary does not consider the potential effects, both adverse and beneficial, of any proposed legislation which, if enacted, could be applied, possibly on a retroactive basis, at any time.

This summary does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a decision to purchase the ordinary shares. In particular, this summary deals only with US holders that will hold the ordinary shares as capital assets within the meaning of Section 1221 of the Code. It does not address considerations that may be relevant to you if you are an investor that is subject to special tax rules, such as a bank, real estate investment trust, regulated investment company, insurance company, dealer in securities or currencies, trader in securities or commodities that elects mark-to-market treatment, person that will hold the ordinary shares as a hedge against currency risk or as a position in a “straddle” or conversion transaction, tax-exempt organization, person whose “functional currency” is not the US dollar, person liable for alternative minimum tax, person required to accelerate the recognition of any item of gross income with respect to shares or ADSs as a result of such income being recognized on an applicable financial statement or a person who owns directly, indirectly or by attribution, at least 10% of our stock. This summary also does not address any aspect of US federal non-income tax laws, such as gift or estate tax laws, or state, local, or non-US tax laws, or, except as discussed below, any tax reporting obligations of a holder of our ordinary shares.

If a partnership (including for this purpose any entity treated as a partnership for US federal income tax purposes) is a beneficial owner of the ordinary shares, the US federal income tax treatment of a partner in the partnership generally will depend on the status of the partner and the activities of the partnership. A holder of the ordinary shares that is a partnership and partners in such a partnership should consult their own tax advisors about the US federal income tax consequences of acquiring, holding, and disposing of the ordinary shares.

We believe that we will not be a passive foreign investment company (“**PFIC**”), for US federal income tax purposes for the current taxable year. However, we cannot assure you that we will not be considered a PFIC in the current or future years. The determination whether or not we are a PFIC is a factual determination that is based on the types of income we earn and the value of our assets and cannot be made until the close of the applicable tax year. In addition, this determination is based in part upon certain US Treasury regulations proposed in June 2019 that are not yet in effect (the "**Proposed Regulations**") and are subject to change in the future. If Harmony were to be treated as a PFIC, US holders of ordinary shares or ADSs would be required (i) to pay a special US addition to tax on certain distributions and gains on sale and (ii) to pay tax on any gain from the sale of ordinary shares or ADSs at ordinary income (rather than capital gains) rates in addition to paying the special addition to tax on this gain. Such holder may also be required to file IRS Form 8621. Additionally, dividends paid by Harmony would not be eligible for the reduced rate of tax described below under "Taxation of Dividends". Although we believe we have adopted a reasonable interpretation of the Proposed Regulations and administrative pronouncements, there can be no assurance that the IRS will follow the same interpretation. The remainder of this discussion assumes that Harmony is not a PFIC for US federal income tax purposes. ***You should consult your own tax advisers regarding the potential application of the PFIC regime.***

Each prospective purchaser should consult his or her tax advisor with respect to the US federal, state, local and non-US tax consequences of acquiring, owning, or disposing of shares or ADSs.

US holders of ADSs

For US federal income tax purposes, a US holder of ADSs generally will be treated as the owner of the corresponding number of underlying ordinary shares held by the Depositary for the ADSs, and references to ordinary shares in the following discussion refer also to ADSs representing the ordinary shares.

Deposits and withdrawals of ordinary shares by US holders in exchange for ADSs will in general not result in the realization of gain or loss for US federal income tax purposes. Your tax basis in withdrawn ordinary shares will be the same as your tax basis in the ADSs surrendered, and your holding period for the ordinary shares will include the holding period of the ADSs.

Taxation of Dividends

Distributions paid out of Harmony’s current or accumulated earnings and profits (as determined for US federal income tax purposes), before reduction for any South African withholding tax paid by Harmony with respect thereto, will generally be taxable to you as dividend income, and will not be eligible for the dividends received deduction allowed to corporations. Distributions that exceed Harmony’s current and accumulated earnings and profits will be treated as a non-taxable return of capital to the extent of your basis in the ordinary shares and thereafter as capital gain. However, we do not maintain calculations of our earnings and profits in accordance with US federal income tax accounting principles. You should therefore assume that any distribution by us with respect to the shares will be reported as ordinary dividend income. You should consult your own tax advisers with respect to the appropriate US federal income tax treatment of any distribution received from us.

Dividends paid by Harmony generally will be taxable to non-corporate US holders at the reduced rate normally applicable to long-term capital gains, provided that either (i) Harmony qualifies for the benefits of the US Treaty, or (ii) with respect to dividends paid on the ADSs, the ADSs are considered to be "readily tradable" on the NYSE, and certain other conditions are met. You will be eligible for this reduced rate only if you are an individual, and have held the ordinary shares or ADSs for more than 60 days during the 121 day period beginning 60 days before the ex-dividend date.

For US federal income tax purposes, the amount of any dividend paid in Rand will be included in income in a US dollar amount calculated by reference to the exchange rate in effect on the date the dividends are received by you or the depositary (in the case of ADSs), regardless of whether they are converted into US dollars at that time. If you or the Depositary, as the case may be, convert dividends received in Rand into US dollars on the day they are received, you generally will not be required to recognize foreign currency gain or loss in respect of this dividend income.

Effect of South African Withholding Taxes

As discussed above in "-Taxation-Certain South African Tax Considerations-Dividends", under current law, South Africa imposes a withholding tax of 20% on dividends paid by Harmony. A US holder will generally be entitled, subject to certain limitations, to a foreign tax credit against its US federal income tax liability, or a deduction in computing its US federal taxable income, for South African income taxes withheld by Harmony.

US holders that receive payments subject to this withholding tax will be treated, for US federal income tax purposes, as having received the amount of South African taxes withheld by Harmony, and as then having paid over the withheld taxes to the South African taxing authorities. As a result of this rule, the amount of dividend income included in gross income for US federal income tax purposes by a US holder with respect to a payment of dividends may be greater than the amount of cash actually received (or receivable) by the US holder from Harmony with respect to the payment.

The rules governing foreign tax credits are complex. You should consult your tax adviser concerning the foreign tax credit implications of the payment of South African withholding taxes.

Taxation of a Sale or other Disposition

Upon a sale or other disposition of ordinary shares or ADSs, other than an exchange of ADSs for ordinary shares and vice versa, you will generally recognize US source capital gain or loss for US federal income tax purposes equal to the difference between the amount realized and your adjusted tax basis in the ordinary shares or ADSs. Your tax basis in an ordinary share or ADS will generally be its US dollar cost. This capital gain or loss will be long-term capital gain or loss if your holding period in the ordinary shares or ADSs exceeds one year. However, regardless of your actual holding period, any loss may be treated as long-term capital loss to the extent you receive a dividend that qualifies for the reduced rate described above under "-Taxation of Dividends" and also exceeds 10% of your basis in the ordinary shares. The deductibility of capital losses is subject to significant limitations.

Foreign currency received on the sale or other disposition of an ordinary share will have a tax basis equal to its US dollar value on the settlement date. Foreign currency that is purchased will generally have a tax basis equal to the US dollar value of the foreign currency on the date of purchase. Any gain or loss recognized on a sale or other disposition of a foreign currency (including its use to purchase ordinary shares or upon exchange for US dollars) will be US source ordinary income or loss.

To the extent you incur STT in connection with a transfer or withdrawal of ordinary shares as described under "-Certain South African Tax Considerations-Securities Transfer Tax" above, such securities transfer tax will not be a creditable tax for US foreign tax credit purposes.

Information with Respect to Foreign Financial Assets

US holders of “specified foreign financial assets” with an aggregate value in excess of US$50,000 at the end of the taxable year, or US$75,000 at any time during the taxable year, are generally required to file an information report with respect to such assets with their tax returns. “Specified foreign financial assets” may include financial accounts maintained by foreign financial institutions, as well as the following, but only if they are not held in accounts maintained by financial institutions: (i) stocks and securities issued by non-United States persons, (ii) financial instruments and contracts held for investment that have non-United States issuers or counterparties and (iii) interests in foreign entities. US holders are urged to consult their tax advisors regarding the application of this reporting requirement to their ownership of the ordinary shares.

US Information Reporting and Backup Withholding Rules

Payments of dividends and other proceeds with respect to ordinary shares or ADSs by US persons will be reported to you and to the IRS as may be required under applicable regulations. Backup withholding may apply to these payments if you fail to provide an accurate taxpayer identification number or certification of exempt status or fail to comply with applicable certification requirements. Some holders are not subject to backup withholding. You should consult your tax adviser as to your qualification for an exemption from backup withholding and the procedure for obtaining an exemption.

F. DIVIDENDS AND PAYING AGENTS

Not applicable.

G. STATEMENT BY EXPERTS

Not applicable.

H. DOCUMENTS ON DISPLAY

Our current Memorandum of Incorporation may be examined at our principal place of business at: Randfontein Office Park, Corner of Main Reef Road and Ward Avenue, Randfontein, 1759, South Africa.

We file annual reports on Form 20-F with, and furnish periodic reports on Form 6-K to, the SEC. You can obtain access to the documents filed via the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system on the SEC’s website (*http://www.sec.gov*).

This Harmony 2019 Form 20-F reports information primarily regarding Harmony’s business, operations and financial information relating to the fiscal year ended June 30, 2019. For more recent updates regarding Harmony, you may inspect any reports, statements or other information that Harmony files with the SEC.

No material referred to in this annual report as being available on our website is incorporated by reference into, or forms any part of, this annual report. References herein to our website shall not be deemed to cause such incorporation.

I. SUBSIDIARY INFORMATION

Not applicable.

ITEM 11 QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information set forth under the heading *"Cautionary statement about forward-looking statements"* on the inside front cover is incorporated herein by reference.

General

We are exposed to market risks, including credit risk, foreign currency risk, commodity price risk and interest rate risk associated with underlying assets, liabilities and anticipated transactions. Following periodic evaluation of these exposures, we may enter into derivative financial instruments to manage these exposures. We have policies in areas such as counterparty exposure and hedging practices, which have been approved by our audit committee. We do not hold or issue derivative financial instruments for trading or speculative purposes.

We did not apply hedge accounting to incidental hedges held in the past.

In accordance with IFRS 9 - *Financial Instruments*, we account for our derivative financial instruments as hedging transactions if the following criteria are met:

- in the case of a hedge of an anticipated future transaction, there is a high probability that the transaction will occur, and
- in the case of a cash flow hedge, the hedging instrument is expected to be highly effective.

During fiscal 2019 and 2018, we designated the majority of the gold forward sales contracts as cash flow hedging instruments and applied hedge accounting to these transactions. See *'Commodity Price Sensitivity*' below.

Foreign Currency Sensitivity

In the ordinary course of business, we enter into transactions denominated in foreign currencies (primarily US dollars, Australian dollars and PNG Kina). In addition, we incur investments and liabilities in US dollars, Australian dollars and PNG Kina from time to time. As a result, we are subject to transaction and translation exposure from fluctuations in foreign currency exchange rates.

Harmony enters into foreign exchange hedging contracts to manage these risks. This can take the form of zero cost collars, which establish a minimum (floor) and maximum (cap) Rand/US dollar exchange rate at which to convert the US dollars we receive on our gold sales to Rand or outright forward contract that fixes the forward exchange rate. At June 30, 2019, the nominal amount of the zero cost collars is US$414 million spread over a 24-month period with a weighted average cap price of US$1=R15.74 and weighted average floor price of US$1=R14.92. Additionally at June 30, 2019 Harmony had open foreign exchange forward contracts which had a nominal amount of US$390 million spread over a 24-month period at an average exchange rate of US$1 = R15.35.

Commodity Price Sensitivity

General

Our revenues and costs are very sensitive to the exchange rate of the Rand and other non-US currencies to the US dollar because our gold is sold in US dollars, but most of our operating costs are incurred in Rand and other non-US currencies. During fiscal 2019 and 2018, Harmony entered into forward sales to establish the sales price in advance of its future gold production, which includes the foreign exchange rate. See "- *Foreign Currency Sensitivity"* above.

The market price of gold has a significant effect on our results of operations, our ability to pay dividends and undertake capital expenditures, and the market price of our ordinary shares.

Gold prices have historically fluctuated widely and are affected by numerous industry factors over which we do not have any control. See Item 3: *"Key Information - Risk Factors - The profitability of our operations, and cash flows generated by those operations, are affected by changes in the price of gold. A fall in the gold price below our cash cost of production and capital expenditure required to sustain production for any sustained period may lead to losses and require Harmony to curtail or suspend certain operations"*. The aggregate effect of these factors, all of which are beyond our control, is impossible for us to predict.

Harmony's Hedging Policy

As a general rule, we sell our gold production at market prices. However, commencing in fiscal 2017, Harmony entered into derivative contracts to manage the variability in cash flows from the Group's production, in order to create cash certainty and protect the Group against lower commodity prices. The limits set by the Board are for 20% of the Group's total production from gold and 50% from silver over a 24-month period. In response to the increase in the Rand gold price, the limit for gold was temporarily increased to 24% to accommodate additional hedging for certain more marginal operations. This limit reverts back to 20% by the end of fiscal 2020. Management continues to top up these programs as and when opportunities arise to lock in attractive margins for the business, but are not required to maintain hedging at these levels. In addition, Harmony's hedging policy permitted up to 25% of US$/Rand exposure to be hedged over 24 months.

Harmony has designated the majority of the Rand gold forward sale contracts as cash flow hedging instruments and applied hedge accounting to these transactions as we believe they are effective hedges. In addition, from January 2, 2019, Harmony entered into US$ gold forward contracts that were designated as cash flow hedging instruments. The effective unrealized portion of the gains and losses before maturity are recorded in other comprehensive income. The realized gains and losses of the matured contracts are recorded in revenue. The US$ gold forward sale contracts entered into before January 1, 2019 and the silver zero cost collars have not been designated as hedging instruments and the gains and losses from these transactions are recorded in profit or loss.

Commodity Sales Agreements

At June 30, 2019, the open Rand gold forward sale contracts amounted to 626,500 ounces spread over 24 months at an average of R659,523/kg. The open US$ gold forward contracts amounted to 66,000 ounces spread over 24 months at an average of US$1,368/oz. The open US$ silver zero cost collars amounted to 90,000 ounces spread over 3 months with a weighted average floor of US$17.40/oz and a weighted average cap of US$18.40/oz.

At June 30, 2018, the open Rand gold forward sale contracts amounted to 300,000 ounces spread over 24 months at an average of R639,000/kg. The open US$ gold forward contracts amounted to 96,000 ounces spread over 18 months at an average of US$1,318/oz. The open US$ silver zero cost collars amounted to 750,000 ounces spread over 15 months with a weighted average floor of US$17.19/oz and a weighted average cap of US$18.19/oz.

Interest Rate Sensitivity

Our interest rate risk arises mainly from long-term borrowings. We have variable interest rate borrowings. Variable rate borrowings expose us to cash flow interest rate risk. Interest rate risk arising from long-term borrowings is offset by cash, restricted cash and restricted investments held at variable rates.

Sensitivity analysis-borrowings

A change of 100 basis points in interest rates on borrowings at June 30, 2019, 2018 and 2017 would have increased/(decreased) profit or loss before tax by the amounts shown below. This analysis assumes that all other variables remain constant.

	Fiscal year ended June 30,		
	2019	2018	2017
		(R in millions)	
Increase in 100 basis points	(59)	(56)	(21)
Decrease in 100 basis points	59	56	21

Sensitivity analysis - financial assets

A change of 100 basis points in interest rates on financial assets at June 30, 2019, 2018 and 2017 would have increased/(decreased) profit or loss before tax by the amounts shown below. This analysis assumes that all other variables remain constant.

	Fiscal year ended June 30,		
	2019	2018	2017
		(R in millions)	
Increase in 100 basis points	44	32	31
Decrease in 100 basis points	(44)	(32)	(31)

For further information on sensitivities, see note 4 "*Financial Risk Management*" to our consolidated financial statements set forth beginning on page F-1.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. DEBT SECURITIES

Not applicable.

B. WARRANTS AND RIGHTS

Not applicable.

C. OTHER SECURITIES

Not applicable.

D. AMERICAN DEPOSITARY SHARES

On October 7, 2011, Harmony appointed Deutsche Bank Trust Company Americas in place of The Bank of New York Mellon as its Depositary for the ADSs evidenced by ADRs. A copy of our form of amended and restated deposit agreement (the "**Deposit Agreement**") among the Depositary, owners and beneficial owners of ADRs and Harmony was filed with the SEC as an exhibit to our Form F-6 filed on September 30, 2009.

The Depositary collects fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The Depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of the distributable property to pay the fees.

The principal terms regarding fees and charges that an ADS holder might have to pay, as well as any fee and other payments made by the Depositary to us as part of the Deposit Agreement, are summarized below.

Fees and Expenses

Persons depositing shares or withdrawing shares holders must pay:	For:
$5.00 (or less) per 100 ADSs (or portion of 100 ADSs)	• The execution and delivery of ADRs • The surrender of ADRs
$.02 (or less) per ADS	• Any cash distribution to you
A fee equivalent to the fee that would be payable if securities distributed to you had been shares and the shares had been deposited for issuance of ADSs	• Distribution of securities distributed to holders of deposited securities which are distributed by the depositary to ADR holders
Registration or transfer fees	• Transfer and registration of equity shares on our share register to or from the name of the depositary or its agent when you deposit or withdraw shares
Expenses of the depositary	• Cable, telex and facsimile transmissions (when expressly provided in the Deposit Agreement) • Converting foreign currency
Taxes and other governmental charges the depositary or the custodian have to pay on any ADR or share underlying an ADR, for example, stock transfer taxes, stamp duty or withholding taxes	• As necessary
Any charges incurred by the depositary or its agents for servicing the deposited securities	• As necessary

In addition, ADR holders must pay any tax or other governmental charge payable by the Depositary or its custodian on any ADS or ADR, deposited security or distribution. If an ADR holder owes any tax or other governmental charge, the depositary may:

- refuse to effect any transfer of such ADRs or any withdrawal of ADSs;
- withhold any dividends or other distributions; or
- sell part or all of the ADSs evidenced by such ADR,

and may apply dividends or other distributions or the proceeds of any sale in payment of the outstanding tax or other governmental charge. The ADR holder remains liable for any shortfall.

Fees and payments made by the Depositary

The Depositary has agreed to reimburse Harmony for expenses Harmony incurs that are related to the maintenance expenses of our ADR facility. The Depositary has agreed to pay the standard out-of-pocket maintenance costs for the ADRs, which consist of the expenses of printing and distributing dividend checks, electronic filing of US federal tax information, mailing required tax forms, stationery, postage, facsimile, and telephone calls. The amount of reimbursement available to Harmony is not necessarily tied to the amount of fees the Depositary collects from investors.

During the fiscal year ended June 30, 2019, Harmony received net direct and indirect payments of R8,806,250 from the Depositary.

PART II

ITEM 13 DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

Not applicable.

ITEM 14 MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

Not applicable.

ITEM 15 CONTROLS AND PROCEDURES

A. DISCLOSURE CONTROLS AND PROCEDURES

As of June 30, 2019, our management, with the participation of our Chief Executive Officer ("**CEO**") and Chief Financial Officer ("**CFO**"), carried out an evaluation, pursuant to Rule 13a-15 promulgated under the Exchange Act of the effectiveness of our "disclosure controls and procedures". Based on the foregoing, our management, including the CEO and CFO, concluded that our disclosure controls and procedures were effective as of June 30, 2019.

B. MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining effective internal control over financial reporting and for the assessment of the effectiveness of internal control over financial reporting. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Harmony's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management conducted an evaluation of the effectiveness of its internal control over financial reporting based on the framework in "*Internal Control -Integrated Framework* (2013 Framework) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("**COSO**"). Management has assessed the effectiveness of internal control over financial reporting, as of June 30, 2019, and has concluded that such internal control over financial reporting was effective based upon those criteria.

PricewaterhouseCoopers Inc., an independent registered public accounting firm, which has audited the consolidated financial statements included in this Annual Report, has issued an attestation report on the effectiveness of Harmony's internal control over financial reporting as of June 30, 2019.

C. ATTESTATION REPORT OF THE REGISTERED PUBLIC ACCOUNTING FIRM

See report of PricewaterhouseCoopers Inc., an independent registered public accounting firm, which is included on page F-2 of exhibit 99.1. The consolidated financial statements, together with the report of PricewaterhouseCoopers Inc., are incorporated by reference to exhibit 99.1 and shall be deemed filed as part of the Harmony 2019 Form 20-F.

D. CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

There has been no change in Harmony's internal control over financial reporting that occurred during fiscal 2019 that has materially affected or is reasonably likely to materially affect, Harmony's internal control over financial reporting.

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Ms. Fikile De Buck, independent non-executive chairman of the audit and risk committee, is regarded as being the Company's "audit committee financial expert" as defined by the rules of the SEC.

In addition, the audit committee members through their collective experience meet a majority of the definitions of the SEC for an "audit committee financial expert" in both the private and public sectors. The members have served as directors and officers of numerous public companies and have over the years developed a strong knowledge and understanding of IFRS, overseeing the preparation, audit and evaluation of financial statements. We believe that the combined knowledge, skills and experience of the Audit Committee, and their authority to engage outside experts as they deem appropriate to provide them with advice on matters related to their responsibilities, enable them, as a group and under the guidance of Ms. De Buck, to act effectively in the fulfillment of their tasks and responsibilities required under the Sarbanes-Oxley Act.

ITEM 16B. CODE OF ETHICS

The information set forth under the heading:

- "-*Corporate governance*" on pages 104 to 120

of the Integrated Annual Report for the 20-F 2019 is incorporated herein by reference.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

A. AUDIT FEES

The following sets forth the aggregate fees billed for each of the two past fiscal years for professional fees to our principal accountants for the audit of the annual financial statements or for services normally provided by the accountant in connection with statutory and regulatory filings or engagements for those fiscal years.

Fiscal year ended June 30, 2018	Rand	30 million
Fiscal year ended June 30, 2019	Rand	30 million

B. AUDIT-RELATED FEES

The following sets forth additional aggregate fees to those reported under "Audit Fees" in each of the last two fiscal years that were provided by the principal accountant that are reasonably related to the performance of the audit or review of the financial statements:

Fiscal year ended June 30, 2018	Rand	5 million
Fiscal year ended June 30, 2019	Rand	5 million

Fees related to interim reviews.

C. TAX FEES

The following sets forth the aggregate fees billed in each of the last two fiscal years for professional services rendered by the principal accountant for tax compliance, tax advice and tax planning:

Fiscal year ended June 30, 2018	Rand	1 million
Fiscal year ended June 30, 2019	Rand	1 million

Services comprised advice on disclosure for completion of certain tax returns.

D. ALL OTHER FEES

The following sets forth the aggregate fees billed in each of the last two fiscal years for products and services provided by the principal accountant not described above:

Fiscal year ended June 30, 2018	Rand	1 million
Fiscal year ended June 30, 2019	Rand	1 million

E. AUDIT COMMITTEE PRE-APPROVAL POLICIES AND PROCEDURES

Our audit committee pre-approves our engagement of PricewaterhouseCoopers Inc. to render audit or non-audit services in terms of its non-audit services policy. All of the services described above were approved in terms of the Company's delegation of authority framework and the audit committee's policy on non-audit services.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Not applicable.

ITEM 16E. PURCHASE OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

None.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

Significant ways in which Harmony's corporate governance practices differ from practices followed by US domestic companies under the listing standards of the NYSE.

Foreign private issuers, such as Harmony, must briefly highlight any significant ways in which their corporate governance practices differ from those followed by US domestic companies subject to the listing standards of the NYSE. Set out below is a brief summary of the significant differences.

US domestic companies are required to have a nominating/corporate governance committee and all members of this committee must be non-executive directors. The JSE Listing Requirements also require the appointment of such a committee, and stipulate that all members of this committee must be non-executive directors, the majority of whom must be independent. Harmony has a Nomination Committee comprised of five non-executive board members, three of whom are independent. The lead independent non-executive director serves as chairman of the Nomination Committee. For US domestic companies, all members of this committee are required to be independent. The current chairman of our board of directors, Dr Patrice Motsepe, is a member of the Nomination Committee and is also chairman of one of Harmony's largest shareholders, African Rainbow Minerals Limited, and is thus not independent. He is, however, in terms of South African governance practices, permitted to be a member of the Nomination Committee.

US domestic companies are required to have a compensation committee composed entirely of independent directors. Harmony has appointed a Remuneration Committee, comprised of five board members, all of whom are non-executive and four of whom are independent. Andre Wilkens holds 101,303 shares in Harmony and is an executive manager of African Rainbow Minerals Limited. Consequently, he is not independent under NYSE listing rules. He is, however, in terms of South African governance practices, permitted to be a member of the Remuneration Committee.

The non-executive directors of US domestic companies must meet at regularly scheduled executive sessions without management. Although the JSE Listing Requirements do not require such meetings, the board meets without executives after each board meeting. The board also has unrestricted access to all company information, records, documents and property. Directors may, if necessary, take independent professional advice at the Company's expense and non-executive directors have access to management and may meet separately with management, without the attendance of executive directors.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

GLOSSARY OF MINING TERMS

The following explanations are not intended as technical definitions, but rather are intended to assist the general reader in understanding certain terms as used in this annual report.

Alluvial: the product of sedimentary processes in rivers, resulting in the deposition of alluvium (soil deposited by a river).

All-in sustaining costs: all-in sustaining costs include mine production costs, transport and refinery costs, applicable general and administrative costs, costs associated with movements in production inventories, ore stockpiles, as well as ongoing environmental rehabilitation costs as well as transfers for stripping activities and costs associated with royalties. Employee termination costs are included, however employee termination costs associated with major restructuring and shaft closures are excluded. The following costs are also included: LED expenditure for continuing operations, share-based payments for continuing operations, corporate costs, sustaining exploration costs and sustaining capital expenditure including OCD expenditure and rehabilitation accretion and amortization for continuing operations. Depreciation costs are excluded. All-in sustaining costs per ounce and per kilogram are attributable all-in sustaining costs divided by attributable ounces or kilograms of gold sold.

Auriferous: a substance that contains gold (Au).

Beneficiation: the process of adding value to gold products by transforming gold bullion into fabricated gold products.

By-products: Any products emanating from the core process of producing gold, including silver and uranium in South Africa and copper, silver and molybdenum in Papua New Guinea.

Carbon in leach (CIL): Gold is leached from a slurry of gold ore with cyanide in agitated tanks and adsorbed on to carbon granules in the same circuit. Granules are separated from the slurry and treated to remove the gold.

Carbon In Pulp (CIP): Gold is leached conventionally from a slurry of gold ore with cyanide in agitated tanks. The leached slurry passes into the CIP circuit where carbon granules are mixed with the slurry and gold is absorbed onto the carbon. Granules are separated from the slurry and treated to remove gold.

Carbon In Solution (CIS): a process similar to CIP except that the gold, which has been leached by the cyanide into solution, is separated by the process of filtration (solid/liquid separation). The solution is then pumped through six stages where the solution comes into contact with the activated carbon granules.

Cash costs: total cash costs include site costs for all mining, processing and administration, reduced by contributions from by-products and include royalties and production taxes. Depreciation, rehabilitation, corporate administration, retrenchment, capital and exploration costs are excluded. Total cash costs per ounce and per kilogram are attributable total cash costs divided by attributable ounces or kilogram of gold produced.

Conglomerate: a coarse-grained classic sedimentary rock, composed of rounded to sub-angular fragments larger than 2mm in diameter (granules, pebbles, cobbles, boulders) set in a fine-grained matrix of sand or silt, and commonly cemented by calcium carbonate, iron oxide, silica or hardened clay.

Cut-off grade: minimum grade at which a unit of ore will be mined to achieve the desired economic outcome.

Decline: an inclined underground access way.

Depletion: the decrease in quantity of ore in a deposit or property resulting from extraction or production.

Development: process of accessing an orebody through shafts or tunneling in underground mining.

Electro-winning: the process of removing gold from solution by the action of electric currents.

Elution: removal of the gold from the activated carbon before the zinc precipitation stage.

Exploration: activities associated with ascertaining the existence, location, extent or quality of mineralized material, including economic and technical evaluations of mineralized material.

Fabricated gold: gold on which work has been performed to turn it into a product, such as jewelry, which differs from a pure investment product, such as a gold bullion bar.

Footwall: the underlying side of a fault, orebody or stope.

Forward sale: the sale of a commodity for delivery at a specified future date and price.

Gold reserves: the gold contained within proved and probable reserves on the basis of recoverable material (reported as mill delivered tons and head grade).

Gold produced: refined gold derived from the mining process, measure in ounces or kilograms in saleable form.

Grade: quantity of gold contained in a unit weight of gold-bearing material, generally expressed in ounces per short ton of ore or in kilograms per metric tonne.

Greenfield: a potential mining site of unknown quality.

Head grade: the grade of the ore as delivered to the metallurgical plant.

Indicated mineral resource: Part of a mineral resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information using appropriate techniques from outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but close enough for continuity to be assumed.

Inferred mineral resource: Part of a mineral resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from outcrops, trenches, pits, workings and drill holes that may be limited or of uncertain quality and reliability.

Leaching: dissolution of gold from crushed or milled material, including reclaimed slime, prior to absorption on to activated carbon.

Level: the workings or tunnels of an underground mine that are on the same horizontal plane.

Measured mineral resource: part of a mineral resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information using appropriate techniques from outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.

Measures: conversion factors from metric units to US units are provided below.

Metric unit		**US equivalent**
1 tonne	= 1 t	= 1.10231 short tons
1 gram	= 1 g	= 0.03215 ounces
1 gram per tonne	= 1 g/t	= 0.02917 ounces per short ton
1 kilogram per tonne	= 1 kg/t	= 29.16642 ounces per short ton
1 kilometer	= 1 km	= 0.621371 miles
1 meter	= 1 m	= 3.28084 feet
1 centimeter	= 1 cm	= 0.3937 inches
1 millimeter	= 1 mm	= 0.03937 inches
1 hectare	= 1 ha	= 2.47105 acres

Metallurgical plant: a processing plant used to treat ore and extract the contained gold.

Mill delivered tons: a quantity, expressed in tons, of ore delivered to the metallurgical plant.

Milling/mill: the comminution of the ore, although the term has come to cover the broad range of machinery inside the treatment plant where the gold is separated from the ore.

Mineralization: the presence of a target mineral in a mass of host rock.

Mineralized material: a mineralized body that has been delineated by appropriately spaced drilling and/or underground sampling to support a sufficient tonnage and average grade of metals to warrant further exploration. Such a deposit does not qualify as a reserve until a comprehensive evaluation based upon unit cost, grade, recoveries, and other material factors conclude legal and economic feasibility.

Mineral reserves: that part of mineralized material which at the time of the reserve determination could be economically and legally extracted or produced. Mineral reserves are reported as general indicators of the life-of-mineralized materials. Changes in reserves generally reflect:

- development of additional reserves;
- depletion of existing reserves through production;
- actual mining experience; and
- price forecasts.

Grades of ore actually processed may be different from stated reserve grades because of geologic variation in different areas mined, mining dilution, losses in processing and other factors. Recovery rates vary with the metallurgical characteristics and grade of ore processed. Neither reserves nor projections of future operations should be interpreted as assurances of the economic life-of-mineralized material nor of the profitability of future operations.

Open-pit/Opencast/Open cut: mining in which the ore is extracted from a pit. The geometry of the pit may vary with the characteristics of the orebody.

Ore: a mixture of mineralized material from which at least one of the contained minerals can be mined and processed at an economic profit.

Ore grade: the average amount of gold contained in a ton of gold bearing ore expressed in ounces per ton or grams per tonne.

Orebody: a well-defined mass of mineralized material of sufficient mineral content to make extraction economically viable.

Ounce: one Troy ounce, which equals 31.1035 grams.

Overburden: the soil and rock that must be removed in order to expose an ore deposit.

Overburden tons: tons that need to be removed to access an ore deposit.

Placer: a sedimentary deposit containing economic quantities of valuable minerals mainly formed in alluvial environments.

Precipitate: the solid product of chemical reaction by fluids such as the zinc precipitation referred to below.

Probable reserves: reserves for which quantity and grade and/or quality are computed from information similar to that used for proved reserves, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proved reserves, is high enough to assume continuity between points of observation.

Prospect: an area of land with insufficient data available on the mineralization to determine if it is economically recoverable, but warranting further investigation.

Prospecting license: an area for which permission to explore has been granted.

Proved reserves: (i) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; grade and/or quality are computed from the results of detailed sampling; and (11) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well-established.

Pyrite: a brassy-colored mineral of iron sulphide (compound of iron and sulfur).

Quartz: a mineral compound of silicon and oxygen.

Recovery grade: the actual grade of ore realized after the mining and treatment process.

Reef: a gold-bearing sedimentary horizon, normally a conglomerate band, which may contain economic levels of gold.

Refining: the final stage of metal production in which final impurities are removed from the molten metal by introducing air and fluxes. The impurities are removed as gases or slag.

Rehabilitation: the process of restoring mined land to a condition approximating its original state.

Sampling: taking small pieces of rock at intervals along exposed mineralization for assay (to determine the mineral content).

Shaft: a shaft provides principal access to the underground workings for transporting personnel, equipment, supplies, ore and waste. A shaft is also used for ventilation and as an auxiliary exit. It is equipped with a surface hoist system that lowers and raises conveyances for men, materials and ore in the shaft. A shaft generally has more than one conveyancing compartment.

Slimes: the finer fraction of tailings discharged from a processing plant after the valuable minerals have been recovered.

Slurry: a fluid comprising fine solids suspended in a solution (generally water containing additives).

Smelting: thermal processing whereby molten metal is liberated from beneficiated mineral or concentrate with impurities separating as lighter slag.

Spot price: the current price of a metal for immediate delivery.

Stockpile: a store of unprocessed ore.

Stope: the underground excavation within the orebody where the main gold production takes place.

Stripping: the process of removing overburden to expose ore.

Sulphide: a mineral characterized by the linkages of sulfur with a metal or semi-metal, such as pyrite, FeS.

Syncline: a basin-shaped fold.

Tailings: finely ground rock from which valuable minerals have been extracted by milling.

Tailings dam (slimes dam): Dam facilities designed to store discarded tailings.

Ton: one ton is equal to 2,000 pounds (also known as a “short” ton).

Tonnage: quantities where the ton or tonne is an appropriate unit of measure. Typically used to measure reserves of gold-bearing material in situ or quantities of ore and waste material mined, transported or milled.

Tonne: one tonne is equal to 1,000 kilograms (also known as a “metric” tonne).

(in this Annual Report we have used metric tonnes unless specified otherwise and we may have used Ton(s) and Tonne(s) interchangeably)

Trend: the arrangement of a group of ore deposits or a geological feature or zone of similar grade occurring in a linear pattern.

Unconformity: the structural relationship between two groups of rock that are not in normal succession.

Waste: ore rock mined with an insufficient gold content to justify processing.

Waste rock: the non-mineralized rock and/or rock that generally cannot be mined economically that is hoisted to the surface for disposal on the surface normally close to the shaft on an allocated dump.

Yield: the actual grade of ore realized after the mining and treatment process.

Zinc precipitation: a chemical reaction using zinc dust that converts gold solution to a solid form for smelting into unrefined gold bars.

PART III
ITEM 17 FINANCIAL STATEMENTS

Not applicable.

ITEM 18 FINANCIAL STATEMENTS

The following consolidated financial statements, together with the report of PricewaterhouseCoopers Inc., are incorporated by reference to exhibit 99.1 and shall be deemed filed as part of the Harmony 2019 Form 20-F:

- Index to Financial Statements;
- Report of Independent Registered Public Accounting Firm; and
- Consolidated Financial Statements.

ITEM 19. EXHIBITS

1.1 Amended Memorandum of Incorporation of Harmony dated February 1, 2018

2.1 Notice to shareholders dated October 24, 2019 in respect of the annual general meeting to be held on November 22, 2019.

2.2 Amended and Restated Deposit Agreement among Harmony, Deutsche Bank Trust Company Limited, as Depositary, and owners and holders of American Depositary Receipts, dated as of October 7, 2011 (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2011, filed on October 24, 2011) http://www.sec.gov/Archives/edgar/data/1023514/000119312511278584/d242812dex22.htm

2.3 Form of ADR (included in Exhibit 2.2) (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2011, filed on October 24, 2011) http://www.sec.gov/Archives/edgar/data/1023514/000119312511278584/d242812dex22.htm

4.1 Deed of Extinguishment of Royalty (Wafi-Golpu Project) dated February 16, 2009 (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2009, filed on October 26, 2009) http://www.sec.gov/Archives/edgar/data/1023514/000095012309053204/u07679exv4w25.htm

4.2 Subscription, Sale and Shareholders' Agreement dated March 20, 2013 between Harmony Gold Mining Company Limited, Business Venture Investments No. 1692 Proprietary Limited, Histopath Proprietary Limited, Business Venture Investments No. 1677 Proprietary Limited, Business Venture Investments No. 1687 Proprietary Limited, Business Venture Investments No. 1688 Proprietary Limited and the Trustees for the time being of the Harmony Gold Community Trust (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex423.htm

4.3 First Addendum to the Subscription, Sale and Shareholders' Agreement dated May 28, 2013 between Harmony Gold Mining Company Limited, Business Venture Investments No. 1692 Proprietary Limited, Histopath Proprietary Limited, Business Venture Investments No. 1677 Proprietary Limited, Business Venture Investments No. 1687 Proprietary Limited, Business Venture Investments No. 1688 Proprietary Limited and the Trustees for the time being of the Harmony Gold Community Trust (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex424.htm

4.4 Second Addendum to the Subscription, Sale and Shareholders' Agreement dated July 10, 2013 between Harmony Gold Mining Company Limited, Business Venture Investments No. 1692 Proprietary Limited, Histopath Proprietary Limited, Business Venture Investments No. 1677 Proprietary Limited, Business Venture Investments No. 1687 Proprietary Limited, Business Venture Investments No. 1688 Proprietary Limited and the Trustees for the time being of the Harmony Gold Community Trust (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex425.htm

4.5 Contractor Agreement dated March 20, 2013 between Harmony Gold Mining Company Limited, Business Venture Investments No. 1692 Proprietary Limited and ARMGold/Harmony Freegold Joint Venture Company (Proprietary) Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex427.htm

4.6 Services Agreement dated March 20, 2013 between Harmony Gold Mining Company Limited and Business Venture Investments No. 1692 Proprietary Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex428.htm

4.7 Sale of Property Agreement dated March 20, 2013 between ARMGold/Harmony Freegold Joint Venture Company (Proprietary) Limited and Business Venture Investments No. 1692 Proprietary Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex429.htm

4.8 Agreement of Lease dated March 20, 2013 between ARMGold/Harmony Freegold Joint Venture Company (Proprietary) Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex430.htm

4.9 Borrower Pledge and Cession Agreement dated March 20, 2013 between Business Venture Investments No. 1677 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex431.htm

4.10 Borrower Pledge and Cession Agreement dated March 20, 2013 between Business Venture Investments No. 1687 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex432.htm

4.11 Borrower Pledge and Cession Agreement dated March 20, 2013 between Business Venture Investments No. 1688 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex433.htm

4.12 Borrower Pledge and Cession Agreement dated March 20, 2013 between Histopath Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex434.htm

4.13 Cashflow Waterfall Agreement dated March 20, 2013 between Harmony Gold Mining Company Limited, Business Venture Investments No. 1692 Proprietary Limited, Histopath Proprietary Limited, Business Venture Investments No. 1677 Proprietary Limited, Business Venture Investments No. 1687 Proprietary Limited and Business Venture Investments No. 1688 Proprietary Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex435.htm

4.14 Addendum to the Cashflow Waterfall Agreement dated May 28, 2013 between Harmony Gold Mining Company Limited, Business Venture Investments No. 1692 Proprietary Limited, Histopath Proprietary Limited, Business Venture Investments No. 1677 Proprietary Limited, Business Venture Investments No. 1687 Proprietary Limited and Business Venture Investments No. 1688 Proprietary Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex436.htm

4.14 Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1677 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex437.htm

4.15 Addendum to the Term Loan Facility Agreement dated May 23, 2013 between Business Venture Investments No. 1677 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex438.htm

4.16 Waiver letter dated June 24, 2013 in respect of the Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1677 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex439.htm

4.16 Extension letter dated May 10, 2013 in respect of the Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1677 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex440.htm

4.17 Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1687 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex441.htm

4.18 Addendum to the Term Loan Facility Agreement dated May 24, 2013 between Business Venture Investments No. 1687 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex442.htm

4.18 Waiver letter dated June 24, 2013 in respect of the Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1687 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex443.htm

4.19 Extension letter dated May 10, 2013 in respect of the Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1687 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex444.htm

4.20 Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1688 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex445.htm

4.21 Addendum to the Term Loan Facility Agreement dated May 24, 2013 between Business Venture Investments No. 1688 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex446.htm

4.22 Waiver letter dated June 24, 2013 in respect of the Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1688 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex447.htm

4.23 Extension letter dated May 10, 2013 in respect of the Term Loan Facility Agreement dated March 20, 2013 between Business Venture Investments No. 1688 Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex448.htm

4.24 Term Loan Facility Agreement dated March 20, 2013 between Histopath Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex449.htm

4.25 Addendum to the Term Loan Facility Agreement dated May 24, 2013 between Histopath Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex450.htm

4.26 Waiver letter dated June 24, 2013 in respect of the Term Loan Facility Agreement dated March 20, 2013 between Histopath Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex451.htm

4.27 Extension letter dated May 10, 2013 in respect of the Term Loan Facility Agreement dated March 20, 2013 between Histopath Proprietary Limited and Harmony Gold Mining Company Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2013, filed on October 25, 2013) http://www.sec.gov/Archives/edgar/data/1023514/000119312513411617/d612311dex452.htm

4.28 First Addendum to the Exchange and Sale of Mining Right Portions Agreement dated April 16, 2014 between Armgold/Harmony Freegold Joint Venture Company Proprietary Limited and Sibanye Gold Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2014, filed on October 23, 2014) http://www.sec.gov/Archives/edgar/data/1023514/000119312514379647/d804845dex453.htm

4.29 Reinstatement and Second Addendum to the Exchange and Sale of Mining Right Portions Agreement dated May 6, 2014 between Armgold/Harmony Freegold Joint Venture Company Proprietary Limited and Sibanye Gold Limited (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2014, filed on October 23, 2014) http://www.sec.gov/Archives/edgar/data/1023514/000119312514379647/d804845dex454.htm

4.31 Loan Agreement between Harmony Gold Mining Company Limited and the Trustees for the time being of the ARM Broad-Based Economic Empowerment Trust, dated March 1, 2016 (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2016, filed on October 26, 2016) http://www.sec.gov/Archives/edgar/data/1023514/000120561316000327/ex4_63.htm

4.32 Intercreditor agreement between African Rainbow Minerals Limited and Harmony Gold Mining Company Limited, dated March 1, 2016 (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2016, filed on October 26, 2016) http://www.sec.gov/Archives/edgar/data/1023514/000120561316000327/ex4_64.htm

4.33 Second Amendment and Restatement Agreement amongst Nedbank Limited (acting through its Corporate and Investment Banking division) (as Original Lender, Arranger and Facility Agent), the Trustees for the time being of the ARM Broad-Based Economic Empowerment Trust (as Borrower), African Rainbow Minerals Limited (as Guarantor) and Harmony Gold Mining Company Limited (as Guarantor), dated March 1, 2016 (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2016, filed on October 26, 2016) http://www.sec.gov/Archives/edgar/data/1023514/000120561316000327/ex4_67.htm

4.34 Subordination Agreement between Nedbank Limited (acting through its Corporate and Investment Banking division), the Trustees for the time being of the ARM Broad-Based Economic Empowerment Trust, African Rainbow Minerals Limited and Harmony Gold Mining Company Limited, dated March 1, 2016 (incorporated by reference to Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2016, filed on October 26, 2016) http://www.sec.gov/Archives/edgar/data/1023514/000120561316000327/ex4_68.htm

4.38 Harmony Gold Mining Company Limited 2006 Share Plan as amended and approved November 25, 2016 (incorporated by reference to /Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2017, filed on October 26, 2017) http://www.sec.gov/Archives/edgar/data/1023514/000162828017010249/exhibit438harmonygold2006s.htm

4.39 Wafi-Golpu Joint Venture Agreement, dated May 22, 2008 between Wafi Mining Limited, Newcrest PNG 2 Limited and Wafi-Golpu Services Limited (incorporated by reference to /Harmony's Annual Report on Form 20-F for the fiscal year ended June 30, 2017, filed on October 26, 2017) http://www.sec.gov/Archives/edgar/data/1023514/000162828017010249/exhibit439wafi-golpujointv.htm

4.45 Term and Revolving Credit Facilities Agreement of up to US$350,000,000 dated July 28, 2017 among Harmony Gold Mining Company Limited, Nedbank Limited, Absa Bank Limited, JP Morgan Chase Bank, Caterpillar Financial Services Corporation, HSBC Bank plc, The State Bank of India, Citibank, NA, and the Bank of China http://www.sec.gov/Archives/edgar/data/1023514/000162828018012896/exhibit445facilitiesagreem.htm

4.48 ESOP trust deed http://www.sec.gov/Archives/edgar/data/1023514/000162828018012896/exhibit448esoptrustdeed.htm

4.50 ZAR2,000,000,000 Term and Revolving Credit Facilities Agreement dated November 8, 2019 for Harmony Gold Mining Company Limited arranged by Nedbank Limited (acting through its Nedbank Corporate and Investment Banking division) and ABSA Bank Limited (acting through its Corporate and Investment Banking division) with Nedbank Limited (acting through its Nedbank Corporate and Investment Banking division) and ABSA Bank Limited (acting through its Corporate and Investment Banking division)

4.51 Facility Agreement dated July 9, 2018 among into between Morobe Consolidated Goldfields Limited, Harmony Gold (Australia) Proprietary Limited and Westpac Bank - PNG - Limited

4.52 Harmony Gold Mining Company Limited Deferred Share Plan 2018 Scheme Rules

8.1 Significant subsidiaries of Harmony Gold Mining Company Limited http://www.sec.gov/Archives/edgar/data/1023514/000162828018012896/exhibit81significantsubsid.htm

†12.1 Certification of the principal executive officer required by Rule 13a-14(a) or Rule 15(d)-14(a), pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

†12.2 Certification of the principal financial officer required by Rule 13a-14(a) or Rule 15(d)-14(a), pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

†13.1 Certification of the principal executive officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

†13.2 Certification of the principal financial officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

††15.1 Integrated Annual Report for the 20-F 2019 dated October 24, 2019

99.1 Consolidated Financial Statements 2019 dated October 24, 2019

† This certification will not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of that section. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended (the "Securities Act"), or the Securities Exchange Act of 1934, as amended (the "Exchange Act"), except to the extent that the Registrant specifically incorporates it by reference.

††	Certain of the information included in Exhibit 15.1 is incorporated by reference into the Harmony 2019 Form 20-F, as specified elsewhere in this report, in accordance with Rule 12b-23(a) of the Exchange Act. With the exception of the items so specified, the Integrated Annual Report for the 20-F 2019 is not deemed to be filed as part of Harmony 2019 Form 20-F.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Linkbase Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

SIGNATURES

Pursuant to the requirements of Section 12 of the Exchange Act, we hereby certify that we meet all of the requirements for filing on Form 20-F and that we have duly caused this annual report to be signed on our behalf by the undersigned, thereunto duly authorized.

HARMONY GOLD MINING COMPANY LIMITED

By: /s/ Peter Steenkamp

Peter Steenkamp

Chief Executive Officer

Date: October 24, 2019

Exhibit 15.1: Integrated Annual Report for the 20-F 2019 dated October 24, 2019

INTEGRATED ANNUAL

REPORT FOR THE 20-F 2019

CONTENTS

ABOUT THIS REPORT

Harmony's 2019 annual integrated report is for the financial year ending 30 June 2019 (FY19), covering all of our operations and activities in South Africa and Papua New Guinea, their impacts and most material concerns during this period. Significant events occurring after year-end and before the date on which this report was approved are also reported.

This integrated report provides a holistic view of the company. It includes information on our business model which explains how we create value, our strategy, operating context, risks, opportunities and material issues; and our governance, financial, operational and sustainable development performance. Our overarching governance framework guides all that we do, which is critical to ensuring and protecting value creation and delivery on our strategic objectives.

In this report, we provide balanced, accurate and accessible information to enable the reader to assess our performance over the past year and our ability to create value over time.

The focus of our integrated report is:

- External factors, material issues, risks and opportunities
- Performance – operational, financial, social, environmental and governance

Reporting frameworks, guidelines and standards considered in compiling this report and the ESG Report 2019 include:

- International Integrated Reporting Framework
- King Report on Corporate Governance for South Africa, 2016 (King IV)
- Global Reporting Initiative (GRI) Standards for global sustainability reporting
- United Nations Sustainable Development Goals (SDGs)
- International Council on Mining and Metals – 10 principals
- United Nations Global Compact
- Voluntary Principles on Security and Human Rights
- JSE Listings Requirements
- World Gold Council's Responsible Mining Principles

MATERIALITY

This report addresses those material issues, risks and opportunities that we consider do have, and most likely will have, a material impact on our performance and ability to deliver on our strategy and its objectives, and ability to create value in the short, medium and long term. In identifying these, we take into account our operating context as well as feedback from stakeholders.

Engagement with stakeholders and their primary concerns are key in determining these matters. For a better understanding of these, see *Stakeholder engagement, Our material ESG issues* and *Managing our risks and opportunities*, which should be read in conjunction with each other. We describe the context for the material issues and risks identified and explain how these issues are being managed.

This year, for the first time we have produced a separate ESG Report which provides the detail on our environmental, social and governance performance.

This integrated report is primarily aimed at investors and the providers of capital. Our separate ESG Report 2019 will be valuable to other stakeholders as well.

Our 2019 set of reports includes:

- Integrated annual report
- Mineral resources and mineral reserves
- ESG report
- Financial report
- Report to shareholders

These reports together with other supporting documents are available online at www.har.co.za. Other additional information can be found at www.harmony.co.za.

Other reports

Form 20-F

Annual report filed with the United States Securities and Exchange Commission, in compliance with the listing requirements of the New York Stock Exchange

Global Reporting Initiative Scorecard

An index of the indicators reported in terms of the Global Reporting Initiative

Operations 2019

Detailed information on each operation

REFERENCE

A full glossary of terms is available on the website, www.har.co.za

Throughout this report, "$" or "dollar" refers to US dollar, unless otherwise stated.

"K" refers to kina, the currency of Papua New Guinea.

"Moz" refers to million ounces and "Mt"refers to million tonnes.

All production volumes are in metric tonnes (t), unless specifically stated as imperial tons.

OUR REPORTS ONLINE

Harmony's full set of 2019 reports and supporting documents are available at www.har.co.za.

The electronic reports are interactive pdfs, with links to sections within the document and to external websites. The interactive links are indicated by text in red italics.

CORPORATE PROFILE

WHO WE ARE

Harmony, a gold mining and exploration company, conducts its activities in South Africa and in Papua New Guinea, one of the world's premier new gold-copper regions. With 69 years of experience, Harmony is currently South Africa's largest gold producer.

Headquartered in Randfontein, South Africa, Harmony is listed on the Johannesburg Stock Exchange, our primary listing, and on the New York Stock Exchange, on which our shares are quoted as American Depositary Receipts. At 30 June 2019, our market capitalisation was R17.1 billion (US$1.2 billion) (30 June 2018): R10.6 billion; US$769 million).

WHAT WE DO

Exploration and acquisitions

Exploring for and evaluating economically viable gold-bearing orebodies and/or value-accretive acquisitions

Mining and processing

Establishing, developing and operating mines and related processing infrastructure. Ore mined is milled and processed by our gold plants to produce gold doré bars

Sales and financial management

Generating revenue through the sale of gold produced and optimising efficiencies to maximise financial returns

Stewardship and mine closure

Restoring mining impacted land for alternative economic use post-mining, having in place approved mine closure commitments and empowering communities and employees

WHAT WE ACHIEVED IN FY19

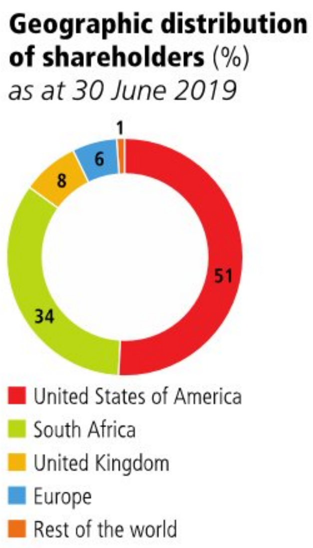
- 17% increase in production to 1.44Moz of gold, contributed to a 23% increase in production profit
- 2% increase in underground recovered grade to 5.59g/t at South African mines
- Operating free cash flow boosted by Moab Khotsong and Hidden Valley
- Hedging strategy contributed to improved cash flow margins
- 19% increase in headline earnings per share to 204 SA cents – 8% increase to 14 US cents
- Included in Bloomberg Gender-Equality Index 2019, and FTSE4Good Index
- CDP Climate Change and Water reports scored A- and B respectively

OUR IMPACT

At Harmony, we understand the impact that our company has on the lives of the people we employ, the communities that surround our mines and the environment, as well as the economic contribution that we make to the countries in which we operate.

SHAREHOLDERS

Our largest shareholder is African Rainbow Minerals Limited (ARM) which has a stake of 13.83% in the company. The remainder of our shareholders, which are geographically diverse, include some of the largest fund managers globally.

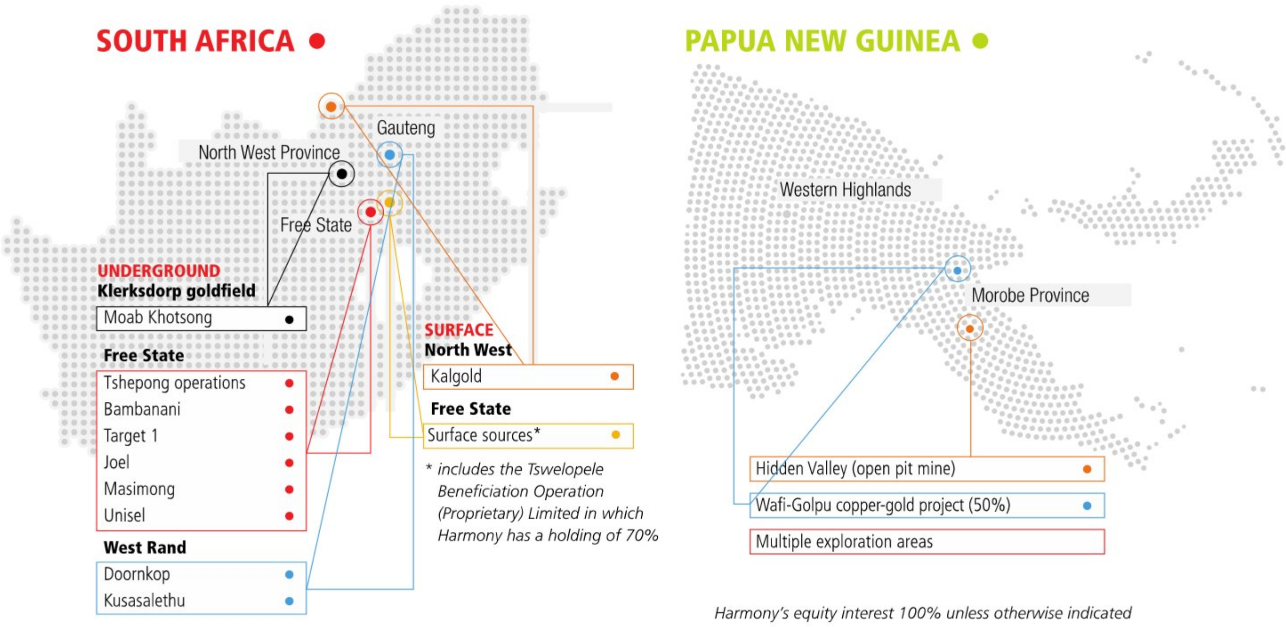


WHERE WE OPERATE

In South Africa, our nine underground operations are located within the world-renowned Witwatersrand Basin – one in the Klerksdorp goldfield, two in the West Rand and six in the Free State, in the southern portion of the Witwatersrand Basin.

In addition, we have an open-pit mine on the Kraaipan Greenstone Belt as well as several surface treatment operations.

In Papua New Guinea, Hidden Valley is an open-pit gold and silver mine. Our significant gold-copper portfolio includes a 50% stake in the Wafi-Golpu project in the Morobe Province, through a 50:50 joint venture with Newcrest Mining Limited (Newcrest).



OUR VALUES

SAFETY
No matter the circumstances, safety is our main priority

ACCOUNTABLE
We are all accountable for delivering on our commitments

ACHIEVEMENT
Achievement is core to our success

CONNECTED
We are all connected as one team

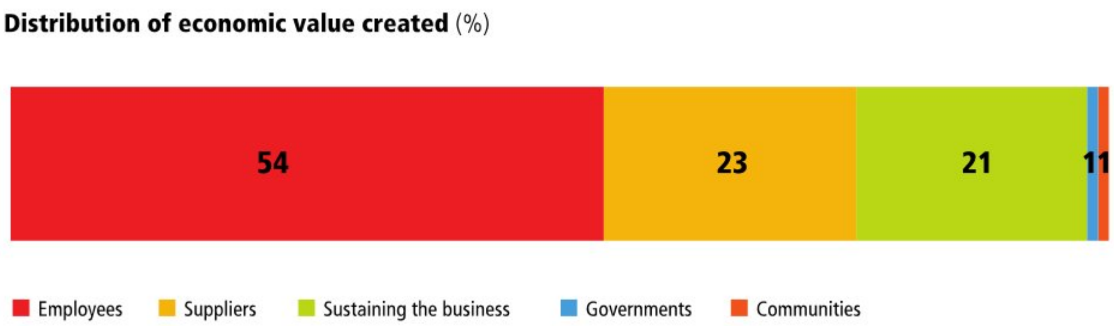
HONESTY
We uphold honesty in all our business dealings and communicate openly with stakeholders

CREATING AND SHARING VALUE

Delivering on our strategic objectives and creating value depends firstly on our access to various resource inputs – the human, financial, natural, manufactured and social and relationship capitals – and on how we use and enhance them in the course of mining for and producing gold. The results of these activities, the OUTPUTS, determine the value created.

OUR OUTPUTS

GOLD PRODUCED **1.44Moz** (FY18: 1.22Moz)	WASTE* DEPOSITED **52.7Mt** (FY18: 50.8Mt) ** Tailings and waste rock*
TOTAL CO_2 EMISSIONS **3.9Mt** (FY18: 3.0Mt)	REVENUE GENERATED **R26.9bn** (FY18: 20.5bn)



Total economic value distributed
R26.8bn (FY18: R24.2bn)

HOW WE CREATED AND SHARED VALUE

	What we did FY19	Enhancing value created	Value created and economic value distributed FY19
ENVIRONMENT	• Mined and processed 26Mt of gold-bearing ore, which generated waste of 53Mt • Consumed 3.3 million MWh of electricity, resulting in 3.9Mt of CO_2e emissions • Used 23 million m^3 of water in primary activities • 74 000ha of mining land under management See Environmental management and stewardship	• Actively working to minimise longer term environmental impacts and liabilities by: o continuous ongoing rehabilitation (45 shafts rehabilitated in past eight years) o initiatives to reduce and optimise energy consumed, especially that from non-renewable sources, and water consumption o implementing targets to improve and monitor environmental performance	**Responsible environmental stewardship** • R199m spent on environmental activities • Water, energy and emission intensities: **Energy intensity:** • 0.13MWh/tonne treated **Total emissions intensity:** • 0.1485 CO_2e tonnes/tonne treated **Water intensity:** • 0.89 000m^3/tonne treated
SOCIAL	**Employees** Employed 39 773 people, including contractors Invested in employee skills development and training (R484 million in SA) See Safety and health and Employee relations	• Roll-out of a proactive four-layered safety strategy – emphasis on preventing fatalities • Ensuring employee safety and well-being, addressing occupational health diseases • New employee relations policy and framework rolled out	**Being a fair and responsible employer** • R12.5bn paid in wages and salaries (FY18: R9.5bn and 40 686 respectively) **South Africa**: R11.5bn (FY18: R9.4bn) **Papua New Guinea**: R1.1bn (FY18: R132m)
	Communities • Socio-economic development focused on uplifting communities – focus on infrastructure, agriculture, and educating, upskilling and enabling youth **Procurement:** • In South Africa, total discretionary spend of R8.5bn with R3.2bn spent on electricity (FY18: R3.5bn and R2.3bn respectively) • Contracts issued in Papua New Guinea to enhance localisation and local spend • Began complying with Mining Charter III in South Africa See Socio-economic development	• Addressing mounting community expectations for economic participation through our socio-economic development projects • Approved new preferential and enterprise and supplier development procurement strategy • Promotion of preferential procurement • Promoting enterprise development • Third generation social and labour plans approved • Community and employee trusts set up	**Investing in self-sustaining communities** • Invested R155m in social and economic projects and initiatives South Africa: R139m (FY18: R70m) Papua New Guinea: R16m (FY18: R4m) **Procurement:** • In South Africa, 75% (R6.3bn) of total discretionary procurement was preferential procurement with black economic* empowerment entities

	Governments • Ensured compliance with all regulations in the various jurisdictions in which we operate • Delays in Wafi-Golpu permitting due to changes in the Papua New Guinean government See Exploration and projects	• Engaged with and maintained positive relationships with all levels of government in South Africa and Papua New Guinea	**Payments to governments** Paid taxes and royalties of R248m (FY18: R429m) **South Africa:** R164m (FY18: R424m) **Papua New Guinea:** R84m (FY18: R5m) Also paid personal income tax of R2.3bn on salaries and wages earned by employees (FY18: R1.5bn) **South Africa:** R2.1bn (FY18: R1.3bn) **Papua New Guinea:** R207m (FY18: R179m)
OVERNANCE	Board oversaw delivery on our strategy – approved strategy and expenditure to sustain our business See CEO's review, Financial director's report, Operating performance, Exploration and projects, and Corporate governance		**Investing in sustaining our business and future growth** Expenditure, as approved by the board, on future value creation and sustaining the business (that is total capital and exploration expenditure): R5.2bn (FY18: 4.7bn) **South Africa**: R3.2bn (FY18: R6.2bn) **Papua New Guinea**: R2.0bn (FY18: R1.9bn)
** Black empowered entities defined as having a shareholding of 25% + 1 vote*			

OUR BUSINESS MODEL

As a gold mining and exploration company, our activities in FY19 contributed to the production of 1.44Moz of gold. We are influenced by the external economic, political and social environment, both locally and globally. Our activities, in turn, have an impact on the economy, society and the environment in which we operate.

OUR VALUE PROPOSITION

Harmony aims to unlock, create and share value created by safely, cost effectively, profitably and sustainably extracting gold from our orebodies:

Investors

To deliver on our guidance and deliver consistently higher and sustained financial returns (share price appreciation) by ensuring responsible financial management and good governance

Employees

To provide employment and the opportunity to earn a living, develop skills and learn in a safe working environment

Communities

To share value created by investing in socio-economic projects and promoting preferential local procurement to stimulate growth and development in host communities, and by being environmentally responsible

Government

To contribute to the countries in which we operate by paying taxes and royalties

OUR STRATEGY

TO PRODUCE SAFE, PROFITABLE OUNCES AND INCREASE MARGINS

Our four strategic pillars are:

- Operational excellence
- Cash certainty
- Effective capital allocation
- Responsible stewardship

For further details see *Delivering on our Strategy*

OUR OPERATING ENVIRONMENT

FACTORS INFLUENCING DELIVERY ON OUR STRATEGY AND VALUE CREATION

What we can manage:

- Safety
- Grade and volumes mined
- Costs, efficiencies and productivity
- Stakeholder relations

What is beyond our control:

- Gold price
- Exchange rate volatility
- Regulatory, policy and political uncertainty
- Mounting community expectations and socio-economic challenges

SIGNIFICANT RESOURCES REQUIRED

Natural capital

- Essential inputs such as gold-bearing orebodies, land and water

Financial capital

- Provided by shareholders, investors and financiers

Human and intellectual capital

- Skilled, experienced and motivated employees, management and leadership
- Constructive employee relations
- Mining and processing technology employed
- Significant service providers and suppliers

Manufactured capital

- Exploration, mining and processing equipment and infrastructure
- Infrastructure and services, particularly power
- Mining rights, regulatory permits and licences – granted by national, provincial and local authorities

Social and relationship capital

- Social licence to operate – enabled by communities and non-governmental organisations
- Our reputation and relationships – particularly with key stakeholders (employees, communities, governments, and investors)

OUR BUSINESS ACTIVITIES AND PROCESSES

Exploration and acquisitions

Exploration, both greenfields and brownfields, together with acquisitions, are aimed at establishing a resource pipeline and asset portfolio to ensure Harmony's long-term sustainability.

Mining and processing

Gold-bearing ore is mined at our underground and open pit mining operations in South Africa and Papua New Guinea. Gold plants process the ore mined to extract the gold and produce doré. In South Africa, certain plants also re-treat material from surface sources.

Sales and financial management

Revenue generated from the sale of the end products produced is efficiently managed and used to sustain operations, to fund organic growth, and is invested in long-term value creation.

Stewardship and mine closure

Our socio-economic and environmental stewardship responsibilities entail limiting, mitigating and managing the impacts of our activities, ensuring employee safety and responsible consumption, and having in place closure planning and rehabilitation that will enable sustained economic activity once mining has ceased.

RISK MANAGEMENT

Identifying, understanding and managing our risks and opportunities are essential to delivery on our strategy and value creation.

Top 5 risks

- Safety
- Resource base depletion
- Gold price and foreign exchange fluctuations
- Rising costs and their impact on margins
- Maintaining licences to operate and cost of compliance

Top 5 opportunities

- Wafi-Golpu project permitting – moving up the value curve
- Gold price and foreign exchange fluctuations
- Productivity improvements
- New technology
- Mergers and acquisitions

Top 5 material ESG issues

- Ensuring safety and health of employees and communities
- Maintaining compliance despite political and regulatory uncertainty and ensuring ethical conduct
- Uplifting and enabling self-sustaining communities
- Maintaining our reputation and social licence to operate
- Managing our environmental exposures

OUR COMPETITIVE ADVANTAGE

- Positively geared to increases in gold price
- Uniquely skilled and experienced leadership teams, especially in sustaining and prolonging the operating lives of deep-level gold mines
- Extensive institutional knowledge of gold mining and related technology
- Partnerships with stakeholders

DELIVERING ON OUR STRATEGY

OUR STRATEGY: TO PRODUCE SAFE, PROFITABLE OUNCES AND INCREASE OUR MARGINS

OUR CORE ACTIVITIES AND STRATEGIC PILLARS AFFECTED:

Exploration and acquisitions	Mining and processing	Sales and financial management	Stewardship and closure

STRATEGIC PILLARS AND RELATED RISKS AND OPPORTUNITIES:

	Risks: 1, 2, 3, 4, 5, 6, 9, 10 and 11 Opportunities: 1, 2, 3 and 4		Risks: 3, 4, 5, 6, 8, 9 and 11 Opportunities: 1, 2, 5 and 6
	Risks: 2, 3, 4 and 8 Opportunities: 1, 5 and 6		Risks: 1, 5, 8 and 9 Opportunities: 1 and 5

DELIVERING ON OUR STRATEGIC PILLARS

PILLAR	AIM	F19 – WHAT WE DID	FHY20 – WHAT WE PLAN
Operational excellence	**To prioritise safety, strict cost control and management of grades mined, together with disciplined mining, to improve productivity and efficiencies**	• Our emphasis on safety performance contributed to an improved lost-time injury frequency rate. Despite this improvement, there were tragically 11 fatalities • Increased production and underground grade mined • Firm cost management contains increase in rand terms and improves costs in US dollars	• To embed a proactive safety culture • To maintain our focus on safety performance and strive to eliminate workplace fatalities • To maintain our focus on operational excellence and drive productivity and efficiency improvements • To produce 1.46Moz at an all-in sustaining cost of R579 000/kg
Cash certainty	**To achieve operational plans, supported by current hedging strategy, contributes to cash flow certainty**	• Moab Khotsong and Hidden Valley's increased contribution to operating cash flow (R1 375 million), together with the successful hedging strategy (R477 million), strengthened our cash flow • Loan facility increased to US$400 million to fund future growth prospects (post year end)	• To achieve operational guidance • To focus on further improving margins • To prioritise debt repayments • To continue hedging programme so as to manage short-term cash flow volatility
Effective capital allocation	**To evaluate and prioritise organic growth opportunities and safe, value-accretive acquisitions to ensure positive stakeholder returns and increase margins**	• Performance by Moab Khotsong and Hidden Valley justifies their acquisition and re-investment respectively • Studies of several organic growth projects underway (from concept stage to development) • The new business team continued to assess acquisition opportunities	• To continue to progress and secure the permitting, funding and development of Wafi-Golpu • To invest R4.7 billion (US$334 million) in sustaining and growing our business – 66% of this at our South African operations and 34% on our activities in Papua New Guinea (excluding Wafi-Golpu)
Responsible stewardship	**To be mindful of and to manage and limit the impacts of our activities on our employees, host communities and the environment** **This encompasses our environmental, social and governance (ESG) performance**	• Included in the FTSE4Good Index in their June 2019 review, in acknowledgment of our strong ESG practices and performance • Included in the Bloomberg Gender-Equality Index for 2019 • Scores for our CDP Climate Change and Water submissions of A- and B respectively • A constituent of the FTSE/JSE Responsible Investment Index	• To maintain our focus on our ESG performance • To continue to engage and collaborate with stakeholders in support of strong, constructive relationships • To demonstrate responsible corporate citizenship, good governance and environmental management • To make progress in meeting our targets for energy and water consumption, waste management, land rehabilitation and the implementation of biodiversity action plans

CHAIRMAN'S LETTER

Dear shareholders and stakeholders

I am pleased to report a 19% increase in headline earnings per share for the 2019 financial year (FY19).

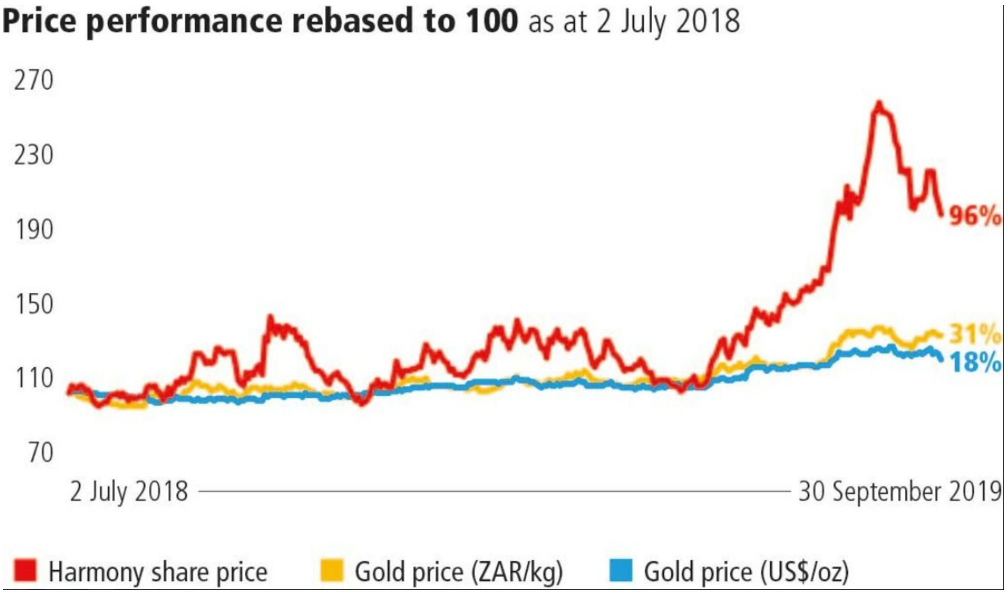
Harmony delivered on its strategic growth objectives embarked on during the 2016 financial year, which were to:

- increase to an approximately 1.5 million ounce producer
- mine additional ounces at an all-in-sustaining cost of below 950 US$/oz

The recently acquired Moab Khotsong operations and reinvestment in Hidden Valley increased gold production for the group by 33% since 2016, reduced all-in-sustaining costs and contributed significantly to our improved financial and operational performance.

The growth we achieved in production volumes has positioned us well to benefit from a higher gold price, as reflected in the exceptional performance of our share price over the past 15 months.

Harmony's share price outperformed 80% of the major gold mining companies locally and abroad[1] as the share price increased from a low of R22.14 per share at the end of June 2018 to R43.30 per share at the end of September 2019. Harmony is a highly geared gold share and is well positioned to benefit from the uplift in the gold price.



We remain confident of gold's long-term fundamentals as a secure store of value.

The volatility in the gold price created the opportunity to hedge a portion of our gold production to increase our profit margin and strengthen our balance sheet. Our hedging programme contributed R477 million (US $34 million) to the group's overall cash position during the 2019 financial year.

[1] Peers include AngloGold, Gold Fields, Sibanye-Stillwater, Centamin, Polyus, Newcrest, Kinross, Barrick, Newmont Goldcorp and B2Gold. *Source: Factset Research Systems Inc.*

Further details of the company's operational and financial performance are provided in the *Chief executive review* and the *Financial director's report* in the 2019 Integrated Annual Report.

MAINTAINING A SAFE AND HEALTHY WORK ENVIRONMENT

The safety and health of all our employees is our primary concern and our focus is to ensure that the work environment is safe. We are committed to ensuring that every employee goes home safe and healthy every day.

Harmony has the following strategic priorities to achieve a safe working place by focusing on:

- Passionate and active leadership
- Effective risk and critical control management
- Effective safety management systems
- Ongoing organisational learning
- Proactive safety culture and an engaged workforce.

Regrettably, 11 of our employees lost their lives at our mines during the year. I send my heartfelt condolences to their families, friends and colleagues.

We encourage employees to stop work when a workplace is considered unsafe. For further information in this regard, see the *Safety and health* section of this integrated annual report.

SILICOSIS AND TUBERCULOSIS CLASS ACTION

In July 2019, the Johannesburg High Court approved an agreement settling the silicosis and tuberculosis class action lawsuit against gold mining companies[2]. Harmony is party to establishing a trust that will assess and settle claims relating to silicosis and tuberculosis. We are proud to have played a part in finding a fair and just solution to the silicosis related legacy challenges.

INVESTING IN OUR EMPLOYEES

Harmony provides work to approximately 37 400 employees in South Africa and 2 400 in Papua New Guinea. Our employees reside mainly in the communities neighbouring our mining operations.

We continue to build on the good relationships we have with our employees and contractors as well as the trade unions that represent them. In the financial year under review, Harmony invested R484 million (US $34 million) in employee training and skills development in South Africa which included training in critical skills, hazard identification and risk assessment, mineral resource management, mining, technology efficiency, beneficiation and environmental conservation.

HARMONY'S COMMITMENT TO HOST COMMUNITIES

We are committed to involve and to benefit the communities neighbouring our mines and to contribute to their development and growth. This is key to the long-term sustainability of our company.

In FY19, we invested R155 million on community development projects focused on infrastructure, enterprise development, agricultural job creation and participation by women and youth. We focused on the Welkom youth development centre and supported the development of small, medium and micro enterprises in informal communities.

[2] Represented by Harmony, Gold Fields, African Rainbow Minerals, Anglo American SA, AngloGold Ashanti and Sibanye-Stillwater

Our community projects included rehabilitation of public roads in the Free State and implementing commercial agricultural programmes in South Africa and Papua New Guinea. For more information, we have included a detailed review on *Socio-economic development* in this integrated annual report and in our *ESG report 2019*.

Harmony paid R9.5 billion (US$740 million) in salaries during the year, making a significant impact on the economic well-being of the host communities. We awarded 81 bursaries to deserving students studying at South African universities.

We also paid R248 million (US$17 million) in taxes and royalties in South Africa and Papua New Guinea and spent R6.3 billion (US$447 million) on local procurement.

WAFI-GOLPU LICENSING UPDATE

Wafi-Golpu is a quality copper-gold ore body and tier one asset, which has the potential to contribute substantial benefits to all stakeholders. Licensing of the Wafi-Golpu project has been delayed due to a legal matter between the provincial and national governments of Papua New Guinea.

We are in contact with the provincial and national government and are committed to finding a mutually beneficial solution. We will keep the market updated in this regard.

THE SOUTH AFRICAN GOLD MINING INDUSTRY

The gold mining industry remains a key contributor to the South African economy. It is a significant contributor to the country's economic growth and sustainable development.

In the 2018 calendar year, the gold mining sector contributed R48.1 billion to the South African Gross Domestic Product (GDP), and total gold sales amounted to R70 billion. The industry employs approximately 100 000 people and in 2018 paid R27.6 billion in employee wages, salaries and benefits[3].

Harmony has successfully operated in South Africa for 70 years and will continue to invest in the country and its people. It is important that the South African mining industry continues to be globally competitive and attractive to domestic and international investment. We are a responsible and committed partner to our employees, host communities and all our other stakeholders.

OUR COMMITMENT TO THE ENVIRONMENT AND ITS RESOURCES

Climate change poses one of the most serious threats to societies, economies and environments across the globe.

Our environmental initiatives focus on the responsible and efficient use of water and energy and on reducing carbon emissions. We continued with our rehabilitation processes, effected zero water discharge at many of our operations and linked our Papua New Guinea operation to hydropower.

See the *Environmental management and stewardship* section of this integrated report for more information.

[3]*Statistics provided by the Minerals Council South Africa.*

COMMITMENT TO GOOD GOVERNANCE

Our board inter alia, approves our strategy and oversees its execution. The board also formulates and ensures that there are robust governance standards and that we conduct and operate our business ethically and in line with good global practice.

The range and depth of skills and expertise on our board has been invaluable as we navigate the current social, political, economic and environmental challenges and opportunities.

You can find more information in the *Corporate governance* section of this integrated annual report.

MY GRATITUDE

I wish to thank all our employees, our host communities and all other stakeholders for their support and cooperation during the past financial year.

I also extend my thanks to our chief executive officer, Peter Steenkamp and his management team for their leadership, hard work and contribution to the success and growth of Harmony.

Ms Grathel Motau and Ms Given Sibiya were appointed to the board as non-executive directors during May 2019. Our board of directors remains committed to robust corporate governance and ethical conduct. I am grateful and value the guidance and advice provided by our directors.

I am confident that Harmony will build on the momentum achieved during this past year and will continue to create value for its shareholders and stakeholders.

Dr Patrice Motsepe
Chairman
24 October 2019

CHIEF EXECUTIVE'S REVIEW

The Harmony team delivered on our gold production market guidance for the fourth consecutive year.

Annual gold production and cash flows were boosted by the inclusion of a full year's production from Moab Khotsong and Hidden Valley. This is in line with our strategy to produce safe, profitable ounces and improve margins through operational excellence and value-accretive acquisitions.

The group achieved a 17% increase in gold production which totalled 44 734 kilograms (1.44Moz). Underground recovered grade increased by 2% to 5.59g/t, making this the seventh consecutive year of increasing grade.

SAFETY AND HEALTH

We tragically lost 11 employees during FY19. I wish to extend my heartfelt condolences to their families, colleagues and friends. Safety is my number one value and is also Harmony's. Our colleagues who lost their lives were - Tshepo Libate, Michael Plaatjies, Tsietsi Manoto, Mvuyisi Mayekiso, Mlamleli Mnqumeni, Mantlobo Phelane, Bernado Benedito Moiane, John Daniel Nell, Juan Frank Little, Andile Mqungquthu and Sennanyane Mashapha.

It is of paramount importance that every employee returns home each day - both safe and healthy. Together with each employee, I aim to ensure safe production, by preventing fatalities and embedding a robust safety and health culture in our organisation.

Harmony embarked on its safety improvement journey in FY16 to achieve global safety best practice and move towards a proactive and risk-based approach. We have adopted a four-layered risk management safety approach, rolled out the associated safety training, implemented new safety systems and put in place a secondary level safety assurance team. Our safety improvement journey will continue to entrench safe behaviour.

We have seen improvements in FY19. Harmony's group lost-time injury frequency rate improved to 6.12 per a million hours worked (6.26 in FY18) and the group fatal injury frequency rate reduced to 0.12 (0.16 in FY18).

On 26 July 2019, the South Gauteng High Court approved the class action silicosis settlement agreement proposed between the Gold Working Group companies (including Harmony) and representatives of the claimants in the mineworkers' class action. We believe the settlement agreement is fair, and we remain committed to playing our part in its implementation.

For additional information, see *Safety and health*.

OPERATIONAL REVIEW

South Africa operations

Harmony's South African operations achieved an 9% increase in gold production of 38 512 kilograms (1.24Moz), exceeding our previous year's production of 35 331 kilograms (1.14Moz). The underground recovered grade increased by 2% to 5.59g/t.

The first full financial year including Moab Khotsong in our portfolio resulted in 7 928 kilograms (254 891oz) of gold produced, contributing R745 million to our free cash flow and reducing the overall all-in-sustaining unit costs for the group.

Unfortunately, the performance of the Tshepong Operations was impacted negatively by a lack of flexibility because of the reduced availability of stoping panels to mine. As a result, gold production at the Tshepong Operations decreased by 1 427 kilograms (45 880oz) following a 10% decrease in recovered grade to 4.94g/t and a 6% decline in tonnes milled. Post year end we have already seen improvements in the mine's overall performance, following stoping development and improved overall mining and grade discipline.

Papua New Guinea

At Hidden Valley, commercial levels of production achieved in June 2018 were maintained during FY19. Safety, good operational momentum and disciplined cost management contributed to Hidden Valley achieving gold production of 6 222kg (200 042oz) and generating operational free cash flow of R573 million (US$40 million) at a margin of 16%. Stripping of the cutbacks will continue for the next two and a half years, to deliver an average life of mine all-in sustaining cost of below US$950/oz.

The licence for the Wafi-Golpu project was delayed with the election of a new prime minister by the Papua New Guinea Parliament. The licensing delay compelled the Wafi-Golpu Joint Venture to defer and revise the planned work programme, which had previously been scheduled to begin this calendar year.

The Papua New Guinea Government continues to signal its support for the project, and the Wafi-Golpu Joint Venture is well placed to resume discussions with the Government given the constructive progress already made on the various agreements required to complete the licensing process and the grant of a special mining lease. It is difficult to estimate the duration of this delay and the market will be advised when discussions resume.

Harmony and Newcrest Mining Limited each currently own 50% of Wafi-Golpu through the Wafi-Golpu Joint Venture. The State of Papua New Guinea retains the right to purchase up to 30% equity interest in any mineral discovery at Wafi-Golpu, at any time before the start of mining.

OUR PEOPLE

Our employees are integral to Harmony achieving its business objectives. We provide training and development; promote fair labour practices for employees and contractors; and encourage local employment opportunities to ensure employees are motivated and productive. We aim to provide opportunities for each employee to develop to their full potential.

The employee relations environment was stable during this financial year. For more employee-related initiatives, refer to *Employee relations*.

MINING CHARTER

Harmony welcomes publication of Mining Charter III and broadly supports its intentions and content. This Charter provides a better balance between the mutually reinforcing concepts of promoting competitiveness and transformation. However, we remain concerned about some key issues, in particular, provisions regarding previous empowerment transactions, mining right renewals and transfers of these rights. As a member of the Minerals Council South Africa, we continue to participate in discussions to resolve these outstanding issues.

Harmony is fully compliant with the 2014 Mining Charter targets and we have exceeded the 26% ownership requirement. Refer to the *Mining Charter II - compliance scorecard*.

ENVIRONMENTAL, SOCIAL AND CORPORATE GOVERNANCE (ESG)

We have substantially reduced the size of our operating footprint, and its environmental impacts, by completing the closure of no fewer than 45 shafts in South Africa. In FY19, we turned more of our mining land over to farming and reduced our electricity and consumption of potable water - the latter, in part, through the construction of three water recycling plants. Testimony to our belief in the importance of “taking people along with us”, we increased our social spend in South Africa by 47%.

Harmony was recognised externally for its contribution to conserving the environment, embracing social projects and embedding strong governance (ESG) principles. Harmony is a component of the FTSE4Good Index and the Bloomberg Gender-Equality Index, and the Carbon Disclosure Project rated us A- for climate change and B for water.

LOOKING AHEAD

We continue to focus on margin improvement through organic growth, acquisitions, cost containment and an increase in production. In FY20, we plan to produce 1.46Moz of gold at an all-in sustaining cost of R579 000/kg.

Global economic risks, combined with an evolving worldwide gold mining industry, support higher gold prices. With most of our gold production being unhedged, the current gold price rally materially supports our cash flows.

CONCLUSION

Harmony’s people work as a team in progressing our business. Everyone has played their part, and to all I extend my sincere thanks. I extend my sincere appreciation to our chairman, Dr Patrice Motsepe, and the board, for providing me with invaluable support during this past year.

Peter Steenkamp
Chief executive officer
24 October 2019

OUR BUSINESS CONTEXT

Our external operating environment is influenced by continual social, political, economic and environmental pressures and changes in the short, medium and long terms. It is vital for Harmony's success that we identify and understands these external influences. Harmony is well governed to withstand these pressures.

External factors	Background	Internal strategies
Stakeholder opinions External stakeholders – shareholders, communities, labour unions, NGOs, media – influence public debate on mining's contribution to society	To help position Harmony for success, it is vital to identify external factors that impact our operations and to understand how they affect our ability to deliver on strategic objectives. Identifying and understanding these external factors requires regular, transparent and consistent stakeholder engagement **Related risk: 5**	**Managing stakeholder expectations** • Engagement, informed by our operating environment, material issues, risks and opportunities • Regular, consistent and transparent communication, underpinned by our values
Employee relations (South Africa) Stable labour relations support delivery on our strategy	Engaged, motivated and productive employees are essential to the efficient running of our operations and to successful delivery on our strategic objectives. **Related risks: 1, 6 and 8**	**Ensuring employee safety and well-being** • Enshrining employees' rights to withdraw from an unsafe, unhealthy workplace • Being a fair and responsible employer • Providing training and development • Preventing and treating HIV/Aids and TB • Recruiting and retaining skilled employees • Addressing employment equity and equality
Environmental and social impacts Responsible environmental and social stewardship is critical aspect of acquiring and maintaining social licence to operate	Access to water and electricity are critical social, environmental and economic issues for all. Adequate, reliable supplies of water and electricity are essential to safe, efficient conduct of our mining operations. We strive continuously to improve water use efficiency and reduce consumption by recycling. Energy consumption strategies have reduced our carbon footprint over the years. **Related risks: 5 and 10**	**Maintaining social license to operate** • Influencing, developing and supporting socio-economic sustainability of communities • Ensuring efficient use of water and energy resources • Limiting or eliminating our environmental footprint through conservation and rehabilitation programmes
Commodity price and exchange rate volatility Long project lead times and lack of flexibility to rescale operations in response to price fluctuations can impact cash generation over long term	Global economy characterised by uneven growth, geopolitical tensions, stronger US dollar, US-China trade war, emerging market crisis sparked by Argentina and Turkey and oil crisis **Related risks: 3, 4 and 6**	**Ensuring business sustainability** • Hedging strategy helps lock in cash margins over short term • Disciplined cost control • Ensuring a safe, productive working environment • Increased productivity • Prioritising organic growth opportunities
Regulatory and legislative uncertainty and change Key challenges to mining industry sustainability	**South Africa**: Mining Charter III was gazetted in September 2018. Harmony, through the Minerals Council, is engaging with Minister of Mineral Resources and Energy on areas of concern **Papua New Guinea**: Harmony is active in industry working groups and Chamber of Mines on proposed amendments to Mining Act **Related risk: 5**	**Keeping abreast of regulatory and legislative change** • Engaging with government • Contributing to industry-wide initiatives through the Minerals Council in South Africa and the Chamber of Mines and Petroleum in Papua New Guinea • Keeping informed

Potential liability for OLD compensation Gold mining industry has been working towards a settlement since November 2014	Through gold mining industry OLD Working Group, a sustainable, inclusive and comprehensive OLD settlement was agreed and ratified in court in July 2019 **Related risk: 8**	**Confronting legacy issues** • R925 million set aside to contribute to industry legacy fund, the Tshiamiso Trust • Through Harmony's RECONNECT initiative, contacted more than 10 800 former employees to whom the Department of Health has paid R206 million in claims to date

STAKEHOLDER ENGAGEMENT

Stakeholder engagement and our risk management process are essential in identifying our most material issues.

Prepared in accordance with the GRI Standards:
102-40, 102-41, 102-42, 102-43 and 102-44

WHY STAKEHOLDER ENGAGEMENT MATTERS

Understanding the needs, expectations and aspirations of our stakeholders enables us to shape our actions in determining strategy, addressing problems, and allocating resources. It underpins the value creation process. Effective stakeholder engagement helps us to better manage risks and opportunities. The board's social and ethics committee oversees stakeholder relations while the board itself monitors relations with stakeholders.

Our material issues are informed by, among others, stakeholder engagement and it is important to understand and meet our stakeholders' needs and expectations where possible. We engage with numerous stakeholders – individuals and organisations – on an ongoing basis. Mutually beneficial relationships with various stakeholders support the success of our business strategy, especially in protecting our social license to operate.

IDENTIFYING MATERIAL ISSUES

In identifying those material issues likely to affect our ability to deliver on our strategic objectives, we are guided by the International Integrated Reporting Framework, the GRI Standards and King IV. The process to identify material issues also considers:

- Harmony's risk profile
- regulatory and policy
- feedback received from stakeholders
- any changes and emerging issues in the industry and in host countries
- national and international imperatives that could have a bearing on our business

STAKEHOLDER ENGAGEMENT

Our stakeholder engagement complies with relevant legislation and standards, including ISO 14001 and ISO 9000. We also take account of King IV and its recommendations on the importance of inclusive stakeholder engagement and their legitimate concerns. In engaging with stakeholders, we are guided by our values and our strategic intent:

- to support government by building relationships and partnerships for collaboration with stakeholders
- to find a balance between the expectations of shareholders and those of other stakeholders
- To build credibility and trust with all stakeholders

Stakeholder	Form of engagement	Frequency of engagement	Main issues of concern
INVESTORS AND FINANCIERS (includes current and future shareholders, and providers of capital) Regular communication with the broader investment community is aimed at managing expectations relating to our financial, operating and ESG performance and to delivery on our guidance and strategic objectives. This community is the most geographically diverse of all our stakeholders. While not directly affected by any material issue, investors monitor our performance and management of all material issues.	In person, via conference calls, by email, at one-on-one meetings, industry conferences, regulatory announcements, and reports	Engagement is regular throughout the year and includes regulatory quarterly and annual reporting	• Safe workforce/workplace • Climate action • Profit share • Certainty of access to power supply (Eskom) • Regulatory uncertainty
EMPLOYEES AND UNIONS Maintaining stable, peaceful labour relations is essential. The benefits of a stable, engaged and committed workforce are many. Engagement emphasises the importance of safety, reducing risk and compliance with procedures, and also focuses on health and overall well-being, and on performance against our strategic objectives.	Mass meetings, workplace meetings, structured meetings with organised labour	Engagement is regular including daily workplace meetings, monthly and quarterly meetings with organised labour, and regular mass meetings	• Safety • Alignment of conditions within company
COMMUNITIES AND NGOs Direct community engagement is vital in managing our socio-economic and environmental impacts as well as community expectations, and to ensuring public safety. Our aim is to establish partnerships with host communities, based on shared value. Subjects of community engagement include, among others, employment and procurement opportunities, enterprise development, mine community development and illegal mining.	Meetings with community structures, regular issues-based meetings, one-on-one meetings, newspapers and radio	Regular engagements throughout the year, and we are now moving to formalise structured quarterly meetings with host communities	• Enterprise opportunities • Jobs/employment • Availability of land for habitation • Bursaries and internships • Of the 13 grievances raised 10* have been resolved * Assured by Ngubane and Co – see their *GRI Assurance Report*

GOVERNMENT AND REGULATORS Positive relations with all levels of government help to better manage the uncertainty around regulatory changes and political risk. Engagement includes reporting on compliance and developments and/or changes at our operations and projects. The aim is to promote regulatory certainty and an environment conducive to investment for long-term growth. Engagement with government is undertaken at regional, provincial and national levels.	Emails, one-on-one meetings, industry meetings and regular issues-based meetings	Regular engagements throughout the year, structured quarterly and annual meetings	• Accelerated transformation • Land distribution • Issues of crime and poverty alleviation
SUPPLIERS Constructive relations and partnerships with business associates and suppliers assist with cost control and alignment with our policies on the environment and climate change, transformation and enterprise development, thus helping us to deliver on our strategic objectives and supporting our long-term viability. In South Africa, such engagement is esential in helping us meet procurement targets in relation to our mining rights.	Emails, industry meetings and issues-based meetings	Regular and on-going	• Alignment with our values and policies on human rights, labour relations and practices, safety and the environment • Ethical behaviour and anti-corruption
MEDIA AND ACADEMIA Engagement with the media complements and reinforces that with other stakeholders. It helps in managing stakeholder expectations and our reputation, in forming public opinion and in promoting an understanding of our activities. Media engagement can be used to communicate with other stakeholders on all aspects of our performance.	In person, via conference calls, one-on-one meetings	Regular engagement throughout the year	• Collaboration in addressing various challenges

OUR MATERIAL ISSUES ARE:

- Ensuring safe and healthy employees and communities
- Maintaining compliance despite political and regulatory uncertainty
- Uplifting and enabling self-sustaining communities
- Maintaining our social licence to operate and reputation
- Ensuring ethical conduct
- Instilling an enabling culture and empowered workforce
- Responsibly managing environmental and social impacts

OUR STAKEHOLDERS

Given our many stakeholders, priority is given to those who have the greatest potential to affect our ability to achieve our strategic objectives and our business performance. Our most significant stakeholders are:

- employees
- investors and financiers
- communities and NGOs
- government and regulators
- suppliers
- media and academia

OUR MATERIAL ESG ISSUES

OUR MATERIAL ESG ISSUES IDENTIFIED

Issues	Impact on Harmony	
Ensuring safe and healthy employees and communities • Employee and community health and safety • Making the workplace safe and healthy – eliminating fatalities and preventing injuries in the workplace • Potential for tailings storage facility failure	Protecting the safety and health of employees and contractors is a fundamental human rights issue facing Harmony and the mining industry. While protecting our workforce from harm is a moral imperative, our focus on eliminating fatalities and preventing loss of life is also a direct investment in the productivity and sustainability of the business. A safe and healthy workforce is an engaged, motivated and productive workforce, which helps to prevent operational stoppages, and reduces the potential for legal liabilities. Safety is also considered our primary risk.	**Related risks: 1, 8** **Strategic pillar affected: Operational excellence**
Maintaining regulatory compliance despite political and regulatory uncertainty • New Mining Charter III and the increasing cost of compliance in South Africa • Possible expropriation of land policy in South Africa • The Carbon Tax and proposed Climate Change Bill in South Africa • Delays in Wafi-Golpu permitting following a change in government • Proposed regulations pertaining to financial provisions for rehabilitation	Harmony operates or has projects in developing countries where there is political instability and where the regulatory environment for the mining industry is uncertain.	**Related risk: 5** **Strategic pillar affected: Responsible stewardship**
Uplifting and enabling self-sustaining communities • Planning for local economic activity and social sustainability, during and post life of mine.	Given the finite nature of our key resource, Harmony must harness its social and environmental investments so that they can be used as a catalyst for development and to support government in creating self-sustaining communities beyond the life of our mines. This will require leveraging our skills and infrastructure, developing suppliers, and/or supporting delivery of alternative economies.	**Related risk: 5** **Strategic pillar affected:** **Responsible stewardship**
Maintaining our social licence to operate and reputation • Delivery on our socio-economic development projects • Transformation, human rights and promoting diversity in the workplace • Local procurement and transformation (black economic empowerment), and enterprise and supplier development • Community engagement and development, and rising community discontent	To expand local employment opportunities, increase tax revenues, and meet increasing community demands for improved infrastructure and greater environmental protection, government continues to put pressure on the mining industry. There is a growing need to achieve measurable social outcomes and build sound relationships around operations. This is key to implementing our business strategy. Failing to engage with communities could jeopardise our social licence to operate and reduce opportunities in the market.	**Related risk: 5** **Strategic pillar affected: Responsible stewardship**
Ensuring ethical conduct • Internal fraud and corruption • Fraud and corruption at national level	Mining companies face regional and global scrutiny, and conforming to formal ethical standards of conduct is non-negotiable. Fraud and corruption can increase in an economic downturn, and the current societal spike in exposure to corrupt practices and unethical leadership heightens the risk to Harmony.	**Related risk: 6** **Strategic pillar affected:** **Operational excellence**

Instilling an enabling culture and empowered workforce • Gender equality and women in mining • Building a skills pool, talent management and succession planning • Quality education and training for employees and community • Decent work and economic growth for our people • Human rights and diversity in the workplace	To deliver on our business objectives, we rely on a capable and engaged workforce that behaves in a manner that is consistent with our values and Code of Conduct. We aim to foster a high-performance culture, through an organisational structure that is fit for purpose, and by ensuring that we have the right skills and by empowering our people to deliver on our strategic objectives.	**Related risk: 5** **Strategic pillar affected: Responsible stewardship**
Responsibly managing environmental impacts • Land management and biodiversity • Energy infrastructure, management and security of supply • Climate change and emissions management • Water infrastructure and management • Waste management • Integrated closure of operations • Remediation, obligations and provisions for liabilities	Responsible environmental management, including the management of water consumption and discharge, is a major factor in legal compliance and permitting, but also plays a significant role in improving the balance of value from mining for our local stakeholders. The goal is to support our long-term sustainability by effectively managing resources, reducing the impact of our activities on the environment and communities, and by complying with legal requirements.	**Related risk: 5** **Strategic pillar affected: Responsible stewardship**

MANAGING OUR RISKS AND OPPORTUNITIES

Harmony's business activities cover the entire gold mining value chain – from exploring for prospects, conducting feasibility studies and developing, buying and operating mines, through to closing and rehabilitating mines at the end of their productive lives. The nature of our operations and the environment within which we operate expose the business to internal and external risks and opportunities that can impact our ability to generate sustainable value for our shareholders and stakeholders. These risks and opportunities are carefully evaluated and managed.

The effective governance and active management of our risks and opportunities are fundamental to our ability to deliver on our strategic objectives, and on our ability to create sustainable value.

By understanding those variables in our internal and external operating environments that create uncertainty and risk, we are better able to alleviate the effects of such risks and to position Harmony to take advantage of any opportunities, future challenges and growth prospects.

We have expertise in operating in emerging economies and have the ability and experience to manage the socio-political circumstances in these countries. We have developed the skills to deal with the challenges of multi-stakeholder labour relations, the latter is especially so at our deep-level gold mines in South Africa, which are labour intensive and unionised.

We strive to continuously improve the safety and health of our employees, have an appetite for change and continuous improvement, and are constantly looking for innovative and cost-effective ways to optimise our operational performance.

OUR RISK MANAGEMENT PROCESS

At Harmony, our approach to risk relies on the ongoing monitoring of risk and related mitigation procedures and, when appropriate, their revision. These activities are embedded in our day-to-day activities and processes at an operational level, in our governance structures and at policy level.

Risk management has, as its starting point, our business strategy and related strategic objectives. Understanding those factors that have the potential to limit our ability to deliver on our strategy is vital, as is identifying those opportunities that will enable us to achieve our goals.

We have experienced, values-driven teams committed to delivery on our strategic objectives.

Risk management process

Oversight of risk governance process	Board	Committees submit their findings to the board. Top strategic, operational and safety-specific risks and mitigating factors are reported to the board on a quarterly basis
	Audit and risk committee	Responsible for oversight of risk governance and ensuring that strategic risks are appropriately addressed and managed. This committee spends considerable time reviewing and evaluating the policies, systems and processes in place to identify, monitor and manage risk, including our risk management policy, methodology and planning, formal risk assessment, internal controls and assurance processes, our risk appetite and tolerance, and our responses to the risks identified.
	Technical committee	Monitors safety and operational specific risks
	Other board committees	Various board committees review specific risks falling within the ambit of their responsibilities
	Executive management championed by CEO	Conducts quarterly reviews of Harmony's strategic risk profile to: • assess completeness of the risk profile • consider those external and internal factors which could lead to any new/emerging risks and opportunities • revisit the likelihood and impact/consequence of existing risks and to similarly assess any new/emerging risks and opportunities to determine a residual rating • review the completeness, effectiveness and/or relevance of mitigating actions implemented and to evaluate the residual risk ranking
Implementation and day to day management	Operational management teams	Implement and oversee day-to-day risk management
	Safety	A four-layered risk-based approach to actively manage safety adopted in both South Africa and Papua New Guinea
	Operations	Each operation maintains, updates and regularly reviews its risk register. These operational risk registers are formally reviewed weekly by the regional general managers together with country-based executive management teams

Determining our most significant risks and opportunities

Once we have determined our group-level risk appetite and tolerance levels, we continue to monitor our risks and to identify and manage those that are most material to the company. While our group-level risk appetite and tolerance levels are subject to formal annual reviews, they are continually monitored for relevance in terms of changing macro-environment factors. Our tolerance levels are further defined at lower tolerance limits per risk.

OUR LEADERSHIP

BOARD OF DIRECTORS

Chairman

Dr Patrice Motsepe (57)

BA, LLB, Doctorate of Commerce (Honorius Causa), Doctor of Management and Commerce (Honorius Causa)

- Appointed non-independent non-executive chairman on 23 September 2003
- Member of the nomination committee

Non-executive deputy chairman

Modise Motloba (53)

BSc, Diploma in Strategic Management

- Appointed 30 July 2004
- Chairman of the investment committee and member of the nomination committee and the social and ethics committee

Lead independent non-executive director

Mavuso Msimang (78)

MBA (Project Management), BSc

- Appointed 26 March 2011
- Chairman of the nomination committee and member of the social and ethics committee

EXECUTIVE DIRECTORS

Chief executive officer

Peter Steenkamp (59)

BEng (Mining), Mine Manager's Certificate Metal Mines, Mine Manager's Certificate Fiery Mines, CPIR, MDP, BLDP

- Appointed 1 January 2016 as chief executive officer

Financial director

Frank Abbott (64)

BCom, CA(SA), MBL

- First appointed non-executive director on 1 October 1994 and was financial director from 1997 until 2004
- Re-appointed financial director in February 2012

Executive director: stakeholder relations and corporate affairs

Mashego Mashego (55)

BA (Education), BA (Hons)

(Human Resources Management), Joint Management Development Programme, Global Executive Development Programme

- Joined Harmony in 2005 and appointed an executive director on 24 February 2010

INDEPENDENT NON-EXECUTIVE DIRECTORS

Joaquim Chissano (80)

PhD (Honorius Causa)

- Appointed 20 April 2005
- Member of the nomination committee and the social and ethics committee

Fikile De Buck (59)

BA (Economics), FCCA

- Appointed 30 March 2006
- Chairman of the audit and risk committee and member of the social and ethics committee, the remuneration committee and the nomination committee

Ken Dicks (80)

Mine Manager's Certificates (Metalliferous Mines and Fiery Coal Mines), Management diplomas

- Appointed 13 February 2008
- Member of the technical committee and the investment committee

Dr Simo Lushaba (53)

BSc (Hons), MBA, DBA, CD (SA)

- Appointed 18 October 2002
- Chairman of the social and ethics committee, member of the audit and risk committee, the remuneration committee and the investment committee

Grathel Motau (45)

BCompt, BCompt Hon, CA (SA), MPhil (Development Finance)

- Appointed 13 May 2019
- Member of the investment committee

Karabo Nondumo (41)

BAcc, HDip (Acc), CA(SA)

- Appointed 3 May 2013
- Member of the audit and risk committee, the technical committee and the investment committee

Vishnu Pillay (62)

BSc (Hon), MSc

- Appointed 8 May 2013
- Chairman of the remuneration committee and member of the technical committee and the investment committee

Given Sibiya (51)

B.Comm, B.Acc, CA (SA)

- Appointed 13 May 2019
- Member of the audit and risk committee

Max Sisulu (74)

MA (Political science), MA (Political economy)

- Appointed 31 January 2018
- Member of the social and ethics committee

John Wetton (70)

CA(SA), FCA

- Appointed 1 July 2011
- Member of the audit and risk committee, social and ethics committee, remuneration committee and investment committee

NON-EXECUTIVE DIRECTOR

André Wilkens (70)

Mine Manager's Certificate of Competency, MDPA, RMIIA, Mini MBA Oil and Gas

- Appointed 7 August 2007
- Chairman of the technical committee and member of the investment committee and the remuneration committee

EXECUTIVE MANAGEMENT

OFFICE OF THE GROUP CHIEF EXECUTIVE OFFICER

Chief operating officer: new business development, corporate strategy and projects

Phillip Tobias (49)

BSc (Mining Engineering), International Executive Development Programme, Advanced Management Programme, Pr Eng and Mine Manager's Certificate of Competence

Chief operating officer: South Africa

Beyers Nel (42)

BEng (Mining Engineering), MBA, Pr. Eng, Mine Manager's Certificate of Competency

Chief executive officer: South-East Asia

Johannes van Heerden (47)

BCompt (Hons), CA(SA)

Company secretary and legal

Riana Bisschoff (42)

LLB, LLM

Ore reserve management

Jaco Boshoff (50)

BSc (Hons), MSc, MBA, Pr Sci Nat, MSAIMM, MGSSA

Human resources

Anton Buthelezi (55)

National diploma (Human Resources Management), BTech (Labour Relations Management), Advanced Dip. in Labour Law, Cert. in Business Leadership

Chief financial officer

Boipelo Lekubo (36)

BCom (Hons), CA(SA)

Chief audit executive

Besky Maluleka Ngunjiri (43)

Bcomt (Hons), CTA, CIA, CCSA

Sustainable development

Melanie Naidoo-Vermaak (45)

BSc (Hons) (Industrial Microbiology), MSc (Sustainable Development), MBA

Chief financial officer: Treasury

Herman Perry (47)

BCom (Hons), CA(SA)

Investor relations

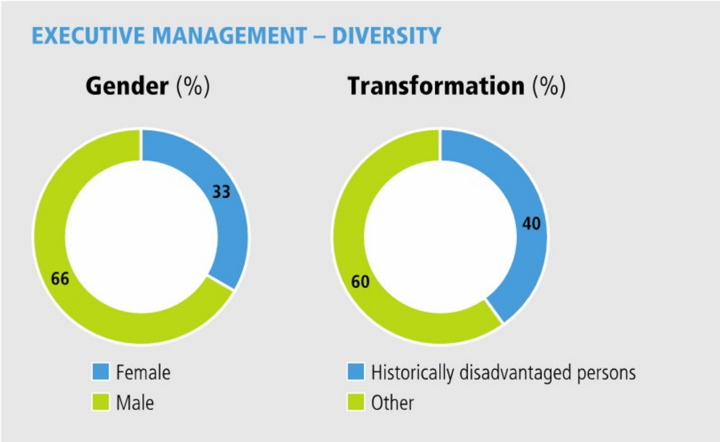
Marian van der Walt (46)

MBA; BCom (Law), LLB, Higher Diploma in Tax, Diplomas in Corporate Governance and Insolvency Law, Certificates in Business Leadership and Investor Relations (UK)

Special projects

Abré van Vuuren (59)

BCom, Development Programme in Labour Relations, Management Development Programme, Advanced Labour Law Programme, Board Leadership Programme



Full and detailed resumés of all members of Harmony's executive management are available at *https://www.harmony.co.za/who-we-are/executive-management*

ENSURING EMPLOYEE SAFETY AND WELL-BEING - MAINTAINING STABILITY IN OUR WORKFORCE

SAFETY AND HEALTH

Harmony cares deeply for the safety and health of employees. We aim to prevent loss of life events and embed a proactive safety culture by driving critical control management, in line with the International Council on Mining and Metals' guidelines and principles. No product is as important as our employees, who should return home daily, safe and healthy.

Prepared in accordance with the GRI Standards:
403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-8, 403-9 and 403-10

WHAT WE ACHIEVED IN FY19

Safety

- Roll-out of phase 1 and related training on safety risk management approach completed in FY19
- 11 colleagues lost their lives in mining-related accidents
- Proactive safety management measured through the close-out of a-hazard fatal risk findings – an average of 98.31% of these findings were closed out
- Improved safety performance at group level: lost-time injury frequency rate improved by 2% to 6.16 per million hours worked

Health

- TB incidence rate continues to decline – down a further 21% in FY19
- Hidden Valley, one of the safest operations in Papua New Guinea, fatality free for three years
- 4 million fatality-free shifts at Doornkop – a first for a South African deep-level gold mine
- Extensive community polio vaccination programme conducted in mine and project areas in Papua New Guinea

OUR APPROACH TO SAFETY AND HEALTH

The safety and the health of employees is paramount. Ensuring a safe and healthy workplace is a moral responsibility and key operational focus area, which will ultimately contribute to delivery on our business objectives and the sustainability of our business.

At the beginning of FY17, Harmony embarked on a safety and health journey. With active leadership, a proactive culture and effective critical control management, we believe we can prevent significant unwanted events and fatal incidents – ensuring Harmony and our employees Live Longer. This journey has led to the implementation of a comprehensive integrated safety risk management system (the Harmony risk management approach), training, refresher training and several safety campaigns. This system was developed following an exercise to benchmark best practice in the industry, and an external audit of our safety performance and practice. Building on industry best practice, Harmony implemented a four-layered approach to risk management.

Our risk-based approach is not limited to safety. It also encompasses health, the environment, communities and social risks, legal and regulatory risks, among others.

Our occupational safety and health policy and related management framework are aligned with the Mine Health and Safety Act in South Africa and with relevant legislation in Papua New Guinea, including the Mining (Safety) Act and associated regulations. We also apply best practices and guidelines as prescribed by the International Council on Mining and Metals. Our approach to safety encompasses critical control management, preparedness, prevention and the monitoring, review and analysis of relevant safety and health data indicators.

At board level, the technical committee is responsible for approving and monitoring compliance with our safety and health policy, and with legislation. Safety, a key performance indicator for management, is monitored to determine remuneration in terms of safety performance.

Representatives of management, unions and government participate in structures aimed at emphasising the importance of safety and achieving our goal to eliminate fatalities and prevent the loss of life.

At our South African operations, operational safety and health committees ensure that all employees are involved in managing and ensuring the safety of all.

There are 40 full-time safety and health stewards at our South African operations (FY18: 45). The decline in their number was a result of the restructuring of Unisel in FY18 and closure of the Joel plant in FY19. Safety and health feature as agenda items at all union and management engagements.

Harmony is involved in and contributes to external safety initiatives and leading practices in the mining industry for implementation through the Mining Industry Occupational Safety and Health (MOSH) Community of Practice Adoption (COPA) process. Champions are nominated for each aspect of occupational safety and health to attend industry meetings and ensure that relevant information is disseminated to all operations.

In Papua New Guinea, safety managers report regularly to the Southeast Asia executive committee by way of notifications, formal monthly reports and meetings. This committee in turn reports to Harmony's technical committee and the board.

FOUR-LAYERED RISK MANAGEMENT APPROACH

Risk assessment layer	BASELINE	ISSUE-BASED	TASK-BASED	CONTINUOUS
Output	Identifying and understanding major hazards and significant unwanted events	Key controls are identified, designed, monitored and managed effectively (control effectiveness and improvement)	Hazards related to non-routine tasks are assessed and managed with a step-by-step action plan For routine tasks, task-based risk assessments are conducted and procedures developed	Routine tasks are assessed through SLAM (Stop, Look Assess and Manage) and safe declaration Embed safety awareness and responsibility with all employees

DECREASING RISK →

SAFETY

Our values and the Harmony risk-management approach underpin our determination to eliminate the loss of life. A co-operative approach, involving all stakeholders, ensures that the necessary infrastructure and systems are in place – including relevant planning, communication and training. Safe behaviour is constantly reinforced. Employees are instructed and authorised to stop working when they consider a workplace to be unsafe as well as to prevent unsafe actions.

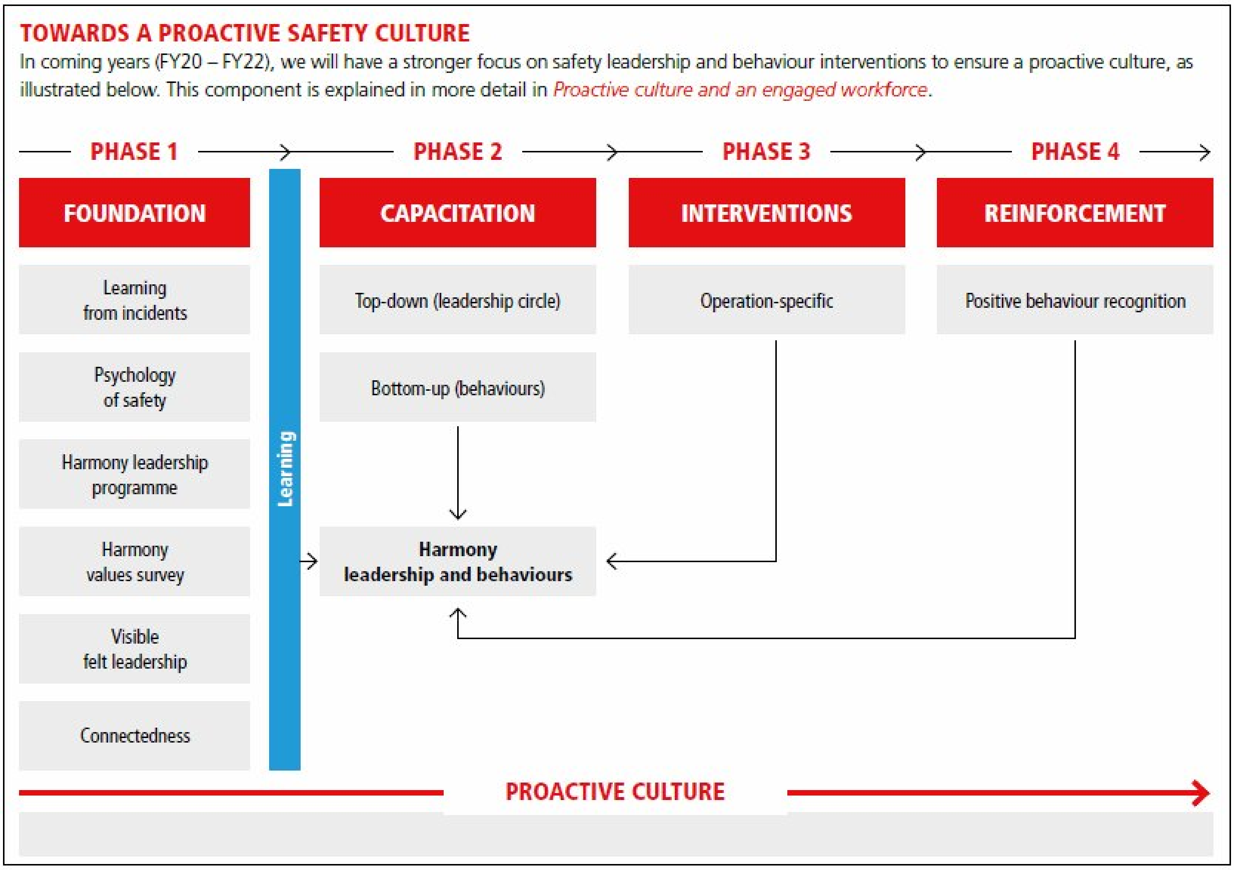
Harmony has set out the following strategic priorities in order to achieve a safe working place by focusing on leadership, risk management and people:

- passionate and active leadership
- effective risk and critical control management (risk assessment as a way of life)
- effective safety management systems (modernisation of systems and processes)
- ongoing organisational learning (learning from incidents)
- a proactive culture and an engaged workforce

Harmony is on a journey to embed risk management as a way of life in Harmony, thus enabling our people to be proactive in order to *Live Longer.*

RISK MANAGEMENT: A PHASED JOURNEY

Phase 1 of the roll-out of the Harmony risk management approach at all operations was completed by the end of calendar 2018. Phase 2 of the system's roll-out is being conducted and group-wide implementation is scheduled to be completed by the end of calendar 2019. Phase 3 (currently in progress) involves embedding the monitoring of controls and responses to control failures, together with a process to continually improve control efficacy. Phase 4 will entail further embedding of our risk management systems and critical control management across the organisation, as well as safety leadership and behaviour interventions.



Risk assessment becoming a way of life

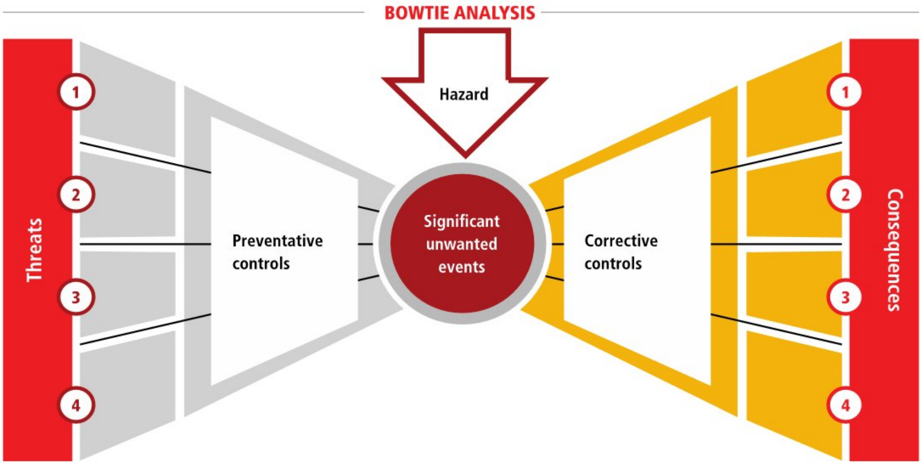
Layer 1: Baseline risk assessment

As part of the Harmony risk-management embedding process, all underground and surface operations have performed and reviewed baseline risk assessments to identify the individual operation's top 20 significant unwanted events. In identifying hazards, focus is placed on recognising the uncontrolled or unwanted release of energy driving many hazards. The consequence of the unwanted event and probability of the unwanted event are rated and combined to produce a risk level or rating on the Harmony risk matrix.

At our underground operations in South Africa, significant unwanted events relating to seismicity, underground rail-bound equipment, electricity, gravity-induced falls of ground, working at heights, winches, mud rushes and inundation, fire and explosives, and stored energy have been identified and prioritised. In addition, on surface, tailings storage facilities are closely monitored to guard against unwanted safety events. For further information on the management of our tailings storage facilities, see *Tailings management* and *Management of tailings in Papua New Guinea.*

Layer 2: Issue-based risk assessment

Detailed issue-based risk assessments (including detailed bowtie risk assessments) have been conducted on these significant unwanted events to identify critical controls and associated monitoring and response plans (layer 2 of risk assessment). These critical controls are actively monitored and responded to through our Harmony risk management system.



Layer 3: Task-based risk assessment and Layer 4: Continuous risk assessment

As part of the process to embed risk management, all Harmony operations identify tasks linked to significant unwanted events they prioritised in Layer 1. Risk assessments are conducted for all these critical tasks. The intent of these risk assessments is to identify the hazards and controls (Go/NoGO rules) related to all task steps. Controls identified in Layer 2 are also checked to ensure they are included in the various task steps. Detailed procedures, checklists, inspections, task observations and training material are developed from this information to ensure all tasks are performed safely and according to legal requirements. These valuable tools, together with Work Notes highlighting key workplace information, are used on a day-to-day basis as the cornerstone of our continuous risk assessment process. Another key element of our continuous risk assessment process is the SLAM principle. Before we do any task in Harmony, we Stop, Look, Assess and Manage. Hazards and high-risk activities associated with working places are further highlighted by Visual Risk Indicator Boards that have been rolled-out across all Harmony operations.

Modernisation of systems and processes

Modernisation of our risk-management journey began in April 2018. Modernisation enables our proactive risk management approach from a systems perspective. It entails upgrading of the existing system to Syncromine to improve the production planning and reporting process. This provides our mining teams with the required safety and hazard information before entering the workplace so that the mining crews are aware of hazards identified on previous shifts. All of this creates visibility of risks in our workplaces and, through control charts, highlights focus areas. Modernisation and the systemisation of our work routines is an ongoing process with the initial roll-out at all operations planned for completion by the end of calendar 2019.

Learning from incidents

To ensure that we continue to learn and do not repeat the same incidents, the Harmony risk management and central safety audit teams also conduct formal “learning from incidents” reviews and group audits after all loss of life and high potential incidents.

Proactive culture and an engaged workforce

The Harmony risk-management journey focuses not only on systems and processes but on establishing a proactive culture through active, visible leadership and consistent safe behaviours. Visible felt leadership training has been provided to all management teams. In July 2018, we started with a “psychology of safety” programme for our leaders. Facilitated “leadership safe behaviour” sessions with all management teams are also underway.

WHAT WE DID IN FY19

Our group safety performance improved in FY19 when we recorded a group lost-time injury frequency rate of 6.16 per million hours worked (FY18: 6.26). Despite this improvement, there were, regrettably, 11 mining-related fatalities during the year (FY18:13), all at our South African operations. There were no fatalities at our Papua New Guinean operation for the third consecutive year.

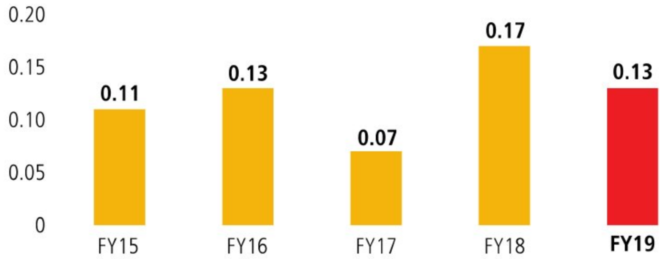
Harmony continues to provide counselling and financial assistance to the families of deceased employees. An education fund established in FY14 supports the needs of school-going dependents of all employees and contractors who lose their lives in the workplace. By the end of June 2019, this fund had provided assistance totalling R3 million and ensured that 126 dependents continued their education.

South Africa

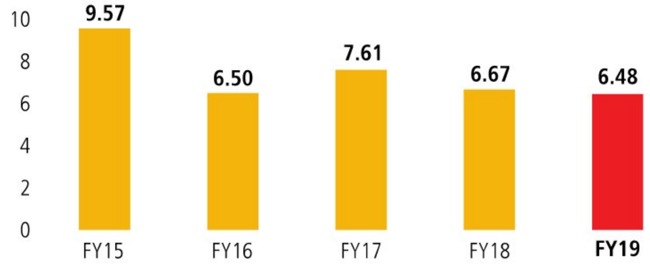
The fatal injury frequency rate for the South African operations improved from 0.17 to 0.13 per million hours worked and the lost-time injury frequency rate to 6.48 from 6.67 per million hours worked. We lost 25 428 shifts to occupational injury (FY18: 23 780).

The reportable injury frequency rate improved to 4.05 per million hours worked (FY18: 4.18) with the fall-of-ground injury frequency rate improving by 23% to 1.09 (FY18: 1.41). There were three gravity-related fall-of-ground fatalities (FY18: 3) and two seismic-related fall-of-ground fatalities (FY18: 7). The rail-bound equipment injury frequency rate improved by 7% to 0.55 (FY18: 0.59). One rail-bound equipment-related fatality was recorded during the year (FY18: 0).

South African operations: Fatal injury frequency rate
(per million hours worked)



South African operations: Lost-time injury frequency rate
(per million hours worked)



Date	Operation	Name	Occupation	Cause
19 July 2018	Tshepong	Tshepo Libate	Winch operator	Gravity-related fall of ground
10 July 2018	Kusasalethu	Michael Plaatjies	Team leader	Gravity-related fall of ground
19 October 2018	Kusasalethu	Tsietsi Manoto	Engineering artisan	Working at heights
3 November 2018	Moab Khotsong	Mvuyisi Mayekiso	Locomotive operator	Trucks, tramming and transport
22 January 2019	Phakisa	Mlamleli Mnqumeni	Driller	Seismic-related fall of ground
8 April 2019	Doornkop	Mantlobo Phelane	Winch operator	Seismic-related fall of ground
30 April 2019	Doornkop	Bernado Benedito Moiane	Winch operator	Gravity-related fall of ground
7 May 2019	Bambanani	John Daniel Nell	Miner	Working at heights
29 May 2019	Phakisa	Juan Frank Little	Rock engineer	Electricity
5 June 2019	Tshepong	Andile Mqungquthu	Winch operator	Scraper winch
28 June 2019	Kusasalethu	Sennanyane Mashapha	Cage attendant	Shaft conveyance

The number of Section 54/55 instructions issued during FY19 increased slightly to 247 (FY18: 242). Production lost as a result of safety-related stoppages totalled 821kg or 28 735oz (FY18: 530kg or 18 550oz).

Managing seismicity

Our mines monitor and manage seismicity continuously. Support systems and procedures focused on energy absorption are in place on our underground mines with higher levels of seismic activity.

A number of methods are used to prevent and control seismicity and its consequences:

- Routine seismic monitoring systems are in operation at all our mines in South Africa to monitor all mining-related seismicity, using data generated to quantify exposure to seismicity, to warn of potential instabilities and to aid mine planning and design
- Short-term seismic hazard assessments of each mining panel are conducted daily – mining crews are withdrawn depending on the seismic hazard rating of a workplace
- Monthly planning process limits the mining rates in high-risk areas and manages the design of mine stope faces
- Long-term planning addresses placement of development excavations in the footwall and in the vicinity of other excavations
- Long-term mining sequence is addressed in yearly life-of-mine planning and technical sessions
- On mines with the hazard of face strain bursts, pre-conditioning of the stope face is applied
- Rapid yielding hydraulic props are used on certain seismically active mines to mitigate the high velocity of closure expected during rockbursts
- On certain seismically-active mines, backfill is used as a regional and local support to assist in reducing volumetric convergence and high stresses on the face and in maintaining the integrity of fractured rock in the stope face and gully regions
- Support units are specially selected to cater for rockfall conditions and dynamic loading in seismically-active areas
- Secondary support is installed in selected areas to manage changes in stress and expected shakedown during seismicity
- Flooding of mines also influences seismicity – water levels in neighbouring mines and in the zone of influence are monitored and managed where possible
- As most seismicity occurs post blasting, centralised blasting is important in ensuring employee safety on seismically active mines. All employees are removed to areas of safety before the blast is set off centrally. This minimises employees' exposure to the blast itself as well as to the seismicity that could be triggered by the blast. Centralised blasting also helps to reduce the time period in which blasting-induced seismicity predominantly occurs after the blast, ensuring the safe return of employees for the next shift.

For a safer working environment in deep-level hard-rock mines, Harmony contributes to fundamental research programmes conducted by the University of Pretoria and the Institute of Mine Seismology into specific rock engineering and seismological issues.

Papua New Guinea

Hidden Valley recorded no fatalities for the year and achieved 1.75 million fatality-free shifts on 2 July 2019, shortly after financial year end. The Hidden Valley operation has delivered world-class safety performance by achieving more than two years lost-time injury-free in May 2019. The lost-time injury frequency rate regressed slightly – from 0 in FY18 to 0.35 in FY19.

The safety approach at Hidden Valley focuses on risk management and critical controls, visible felt leadership and promoting a proactive safety culture.

The updated safety and risk management system was successfully implemented in February 2019 and is aligned with the risk management safety approach rolled out at the South African operations, Australian standard 4801 and the ISO 45001 (once ratified).

Safety measures in place include implementation of critical controls and verification of all high-risk (potentially fatal) activities. Work menus and related training programmes, incorporating relevant critical controls, were developed for high-risk activities, rolled out and monitored.

Verification of the implementation of critical controls continues to be embedded across the Hidden Valley operation. This is important in monitoring the effectiveness and quality of controls to use leading indicators.

The mountainous terrain, high rainfall, quickly changing weather conditions and seismicity in Papua New Guinea present particular safety challenges such as landslides and/or slope failures. Natural landslides are relatively common and, together with potential man-made landslides (slope failures associated with open-pit mining), pose a significant safety risk.

Real-time slope stability radar systems, critical in monitoring and managing potential failures and failure incidents, operate at both open pits. Specific geotechnical risk assessments are undertaken for all work sites in Papua New Guinea with the associated mitigation plans being updated at least annually.

As vehicle-related incidents are also a significant risk, we have implemented the following mitigation measures:

- installation of on-board cameras to monitor driver behaviour for corrective training
- vehicle-specific emergency braking procedure training for drivers
- manned check points for trucks to verify permits and licences prior to entry into mine lease areas and prior to certain hazardous declines
- automated controls such as collision awareness, fatigue detection and personal protective systems to prevent accidents in FY19.

HEALTH

At Harmony, we believe that every employee deserves a fulfilled life and that is why we care about their health and wellbeing. It is important that our employees are fit for life, fit for work and fit to retire.

Our approach to healthcare is proactive and risk-based and aims to ensure that healthcare is easily accessible. Healthcare and employee well-being fall into two distinct areas: employee health and wellness, which is occupational healthcare in the workplace, and non-occupational healthcare, which is lifestyle-related.

Harmony's health strategy is aligned with our strategic objectives. Reducing health-related safety risks, promoting employee wellbeing and reducing absenteeism contributes to improved productivity by providing a sustainable, cost-effective health service solution.

In South Africa, Harmony's healthcare programme provides primary, secondary and tertiary healthcare as well as occupational health services to all employees through company-managed healthcare facilities, medical aid membership and external healthcare providers. We continue to provide accessible, comprehensive healthcare services at our health hubs located close to the workplace.

Harmony's proactive healthcare aims to manage illness by identifying and treating disease early and thus helping to prevent permanent disability. Medical surveillance, active case finding, early detection and treatment of disease are integral aspects of our management healthcare system.

The four pillars of our health services are:

- Health promotion and awareness
- Disease prevention and risk management
- Clinical intervention (treatment programmes)
- Continuous health risk profiling

WHAT WE DID FY19

South Africa

Key health focus areas in FY19 included optimisation of labour availability, the ongoing integration and alignment of Harmony's healthcare strategy at Moab Khotsong, and greater attention and awareness of mental health. Given the anticipated increase in mental illnesses, with one in six South Africans suffering from psycho-social issues and substance use, we have developed an employee psycho-social programme (EPP) to provide access 24/7/365 to all employees. The programme will ensure an employee's positive state of physical and emotional wellness, and enhance employee and workplace effectiveness by preventing, identifying and resolving personal and productivity issues. The programme's roll-out began post year-end.

Employee wellness and healthcare

Healthcare delivery

At our South African operations, membership of a medical scheme is compulsory for all category 9+ employees. For category 4-8 employees, membership is voluntary with 8 202 employees participating in medical schemes in FY19 (FY18: 6 879). Harmony subsidised the related costs on behalf of employees by R18.4 million (US$1.3 million) a month (FY18: R14 million or US$1.1 million).

In all, 24 471 category 4-8 employees have elected not to join a medical scheme. Instead they receive in-house comprehensive health services from mine medical health facilities and associated preferred providers at no cost to the employee. The cost of providing these services was R33.4 million (US$2.4 million) a month in FY19 (FY18: R24 million; US$1.9 million), which includes health hub management costs, specialists and hospitalisation – the increase is a result of the inclusion of Moab Khotsong.

The dedicated health hubs at our operations undertake active case-finding and screening as well as active disease management of chronic conditions for employees who are not members of a medical scheme. Medical surveillance is conducted at our health hubs for all employees, including contractors. In all, 53 279 medical examinations were conducted in the past financial year (FY18: 46 513).

Managing health-related absenteeism

Our At work health management programme continues to yield favourable results by contributing to more healthy people at work. The aim of this programme is the early identification of employees who may become chronically ill or medically incapacitated by the diseases, and to manage, review and monitor their medical conditions. Health-related absenteeism increased to 7.7% in FY19 (FY18: 7.4%). This increase was mainly as a result of more employees using private medical services. Abnormalities in absenteeism trends are closely monitored by management. In the past year, 10 663 (FY18: 8 463) individual medical cases were reviewed by a team of healthcare professionals.

Preventative healthcare – promoting awareness and education

Harmony's health initiatives focus on the prevention of diseases to ensure total worker health. Employee education, which addresses these diseases, includes the employee induction programme, podcasts and television screens to educate employees about various health issues. Other initiatives include the distribution of pamphlets, health-worker training, screening at all medical centres, disease management interventions and quality assurance. In addition, an exclusive health desk has been set up to improve and strengthen communication about health-related matters.

Monthly health awareness campaigns, guided by the annual health calendar, focus on particular health-related topics such as HIV/Aids, tuberculosis (TB), sexually transmitted infections, as well as lifestyle and occupational diseases. Ongoing monitoring and education are conducted on various digital platforms and at the medical health hubs, which oversee major health campaigns at operational level.

To curb the rise in non-communicable diseases and their devastating impact, the healthy lifestyle programme was reviewed.

The review resulted in the deployment of dieticians, biokineticists and fitness trainers to the operations (decentralisation of these services) to improve accessibility to these required services.

In preparation for the winter season in South Africa, the influenza (flu) vaccine is offered to employees, for free, as a precautionary measure. In all, 8 007 employees (FY18: 8 883) received flu vaccinations in the past financial year.

Managing diseases

Tuberculosis

TB is one of the most pressing public health concerns in South Africa, including the gold mining industry. The TB incidence rate at our South African operations remains high compared with World Health Organization and national benchmarks.

Harmony's TB control programme, which is aligned with the relevant guidelines and prescriptions of the World Health Organization, and with the National Strategic Plan to combat TB, focuses on contact tracing, comprehensive screening, testing, hospitalisation of infectious cases and a directly observed therapy short course. As an affiliate of the Minerals Council South Africa, and through the national Masoyise iTB campaign, Harmony is committed to ensuring that every employee is screened and tested for TB annually, and commits to further reduce TB infections in line with the national milestone that by December 2024, the TB incidence rate should be at or below the highest of either:

- the national TB incidence rate or
- reduce new TB infections in line with the National Strategic Plan

In FY19, 37 666 employees (including contractors), or 99% of the workforce, were screened for TB, exceeding the 90% target set by the Minister of Health. A total of 102 cases of TB were certified (FY18: 540).

The TB incidence rate per 100 000 employees has continued to decline since the introduction of our proactive healthcare strategy in FY10, improving by 21% year on year in FY19.

Absenteeism

	FY19	FY18	FY17	FY16	FY15
Health-related absenteeism (%)	7.7	7.4	7.4	7.2	8.0

Tuberculosis

	FY19	FY18	FY17	FY16	FY15
TB screening of employees and contractors	37 666	29 955	30 113	29 077	na
% of workforce	99	97	97	96	na
TB incidence rate (per 100 000 employees tested)	841	1 063	1 366	1 524	1 887

HIV/Aids

The HIV/Aids epidemic in South Africa continues to have a significant impact on employees and their dependents despite significant progress in raising awareness and prevention, and the national roll-out of antiretroviral therapy. The untreated illness can result in higher levels of opportunistic co-infections, which lead to increased absenteeism and reduced performance levels, loss of skills, greater economic burden, and sometimes death. Motivating employees to confirm and/or disclose their HIV status, despite perceived stigma and confidentiality issues, remains one of the greatest challenges. Initiatives such as positive behaviour programmes are pivotal in this regard.

At our South African operations, 8 947 employees (FY18: 8 108) have been identified as HIV-positive and are on the HIV/Aids programme with 8 024 (FY18: 6 938) receiving antiretroviral therapy.

HIV/Aids is managed through our clinics and the services of health professionals with the support of appropriate specialists. Harmony's HIV/Aids strategy is based on promoting health through education and awareness programmes, preventative strategies to reduce the number of new cases, evidence-based medical interventions and ongoing monitoring of compliance.

The Department of Health, in conjunction with the Joint United Nations Programme on HIV and Aids (UNAids), adopted the 90-90-90 targets, which are globally aligned. Harmony has in turn aligned its HIV/Aids programme with these targets to be achieved by 2020:

- 90% of all people living with HIV will know their HIV status – Harmony is currently at 82% (FY18: 82%) (including contractors)
- 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy – Harmony is currently at 88% (FY18: 80%) medically uninsured people, excluding contractors
- 90% of all people receiving antiretroviral therapy will have viral suppression

Voluntary counselling and testing for HIV/Aids

Pre-test counselling and voluntary testing are offered to all employees through ongoing interventions at all Harmony healthcare hubs. In all, 38 737 (FY18: 32 194) employees received voluntary counselling and testing during the year and, of these, 31 869 (FY18: 26 082) confirmed their status.

Chronic diseases

Non-communicable chronic diseases, including hypertension, heart disease and diabetes continue to pose a significant challenge for our employees.

Specific initiatives have been implemented to manage chronic diseases with particular focus on HIV/Aids, TB, diabetes and hypertension. In FY19, 61% (FY18: 59%) of employees at the South African operations had a chronic condition. Of the 18 924 employees diagnosed with chronic conditions, 34% have hypertension, 9% diabetes and 47% HIV/Aids.

HIV/Aids

	2020 Target (%)	FY19	FY18	FY17	FY16	FY15
Employees identified as HIV-positive		**8 947**	8 108	7 816	7 063	7 050
Employees receiving antiretroviral therapy		**8 024**	6 938	6 430	5 333	4 016
Performance against UNAids targets – 2020						
Employees knowing their HIV status (including contractors) (%)	**90**	**82**	82	78	73	na
Employees receiving antiretroviral therapy (medically uninsured, excluding contractors) (%)	**90**	**88**	80	78	74	na
Employees receiving antiretroviral therapy will have viral suppression (medically uninsured) (%)	**90**	**73**	71	70	61	na

Chronic diseases

	FY19	FY18	FY17	FY16	FY15
Employees with a chronic condition*	**18 924**	16 247	15 216	15 137	8 600
Proportion of South African workforce (%)	**61**	59	55	55	42
Diabetes (%)	**9**	6	6	6	6
Hypertension (%)	**34**	34	33	33	42
HIV/Aids** (%)	**47**	50	52	52	47

* Employees with more than one chronic disease are counted in each condition

** From 2016 onwards, all HIV positive people were included and not only those on treatment

Managing occupational health

Harmony is focused on creating an enabling environment for teams to succeed. Managing underground health hazards, including temperature, dust and noise control, is critical.

Managing underground temperatures – limiting heat stress

Extensive refrigeration and ventilation measures are in place at all operations where temperatures exceed normal working ranges. Heat-tolerance testing, acclimatisation programmes, and the provision of adequate hydration and support protect employees exposed to excessive heat in the workplace.

In FY19, 22 157 heat-tolerance tests were conducted with 88 cases of heat-related illness reported (FY18: 20 797 tests and 47 cases). Most cases can be attributed to dehydration. Environmental working conditions are monitored continuously.

Noise management – eliminating noise-induced hearing loss

All Harmony employees who are exposed to high noise levels are given personalised hearing protection devices, which reduce noise levels by 25 decibels.

During the year, 99.5% of occupationally-exposed employees (and contractor employees: 85.7%) were given personalised hearing protection devices (FY18: 99% and 84%).

Sound attenuators were also fitted on all equipment, resulting in no noise level exceeding 110dB(A)-weighted decibels from any machine in compliance with our noise milestone.

Industry milestones for noise-induced hearing loss:
By January 2018, no employee's standard threshold shift will exceed 25dB(A) from the baseline when averaged at 2 000Hz, 3 000Hz and 4 000Hz in one or both ears: Regrettably, five cases were reported where this threshold level was exceeded in FY19
By December 2024, the total operational or process noise emitted by any equipment must not exceed a milestone sound pressure level of 107dB(A): Only three machines fall into this category to which there is restricted access and limited exposure time to ensure the safety of our employees

Annual audiometric testing is conducted at our occupational health hubs during medical examinations. The number of early noise-induced hearing loss cases (5-10% shift) decreased from 446 cases in FY18 to 272 in FY19.

An awareness drive was initiated at all operations to ensure that employees are aware of the benefits of wearing personalised hearing protection. A monitoring programme was also implemented to measure actual compliance in the workplace. Compliance monitoring is undertaken during routine occupational hygiene inspections and ad hoc audits are conducted.

As part of the initiative to prevent noise-induced hearing loss, 22 150 (FY18: 25 607) employees participated in the “hearing coach promotion” initiative during the year. Evaluations were conducted and guidance was provided where necessary on the use of customised hearing-protection devices.

Dust control – eliminating related occupational health diseases

Dust discharge occurs during activities where rock is broken at source, such as during stoping, development and trackless mining. Engineering controls to allay dust have been implemented or are being rolled out at our underground operations to minimise employees’ exposure to silica dust, including leading practices as advocated by the Mining Industry Occupational Safety and Health (MOSH) such as employing fogger systems at strategic underground areas and implementing foot- and side-wall treatments to allay dust in identified intake airways.

Multi-stage dust filtration systems have also been installed and all winches have been covered. In addition, real-time dust monitors are installed at all our underground operations. These monitors provide immediate dust readings, which allow immediate action to be taken on unacceptable readings.

Training and awareness programmes address dust control in stopes and all development ends are equipped with water blasts to settle dust directly after a blast.

Managing silicosis

Silicosis is caused by long-term exposure to high levels of quartz silica dust and can increase susceptibility to TB. Harmony’s integrated HIV/Aids, TB and silicosis policy and programme is intended to responsibly manage the debilitating disease and proactively prevent deterioration, and thus minimise the risk.

During FY19, 204 cases of silicosis were submitted to the Medical Bureau for Occupational Diseases and 58 cases were certified (FY18: 211 cases reported and 179 certified).

Occupational health statistics

Heat	**FY19**	**FY18**	**FY17**	**FY16**	**FY15**
Heat tolerance tests conducted	**22 157**	20 797	15 354	15 549	6 736
Heat-related cases reported	**88**	47	53	20	23
Noise					
Number of early noise-induced hearing loss cases	**272**	446	518	370	526
Compensated noise-induced hearing loss	**62**	116	90	87	81
Employees with personalised hearing devices (%)	**99.5**	99	99	97.7	98.9
Contractor employees with personalised hearing devices (%)	**85.7**	84	76	70.6	59.6
Silicosis					
Number of cases submitted	**204**	211	220	284	313
Number of cases certified	**58**	179	108	64	197

Project Ku-Riha and ReConnect

Project Ku-Riha, launched by the Department of Health in 2015, aims to improve the system of compensation for mineworkers who suffer from occupational lung disease, to address the related claims backlog and to ensure that claims are paid speedily and efficiently.

Due to the impact on mineworkers who contracted silicosis and/or TB at work on gold mines in South Africa, a class action lawsuit was filed against the gold mines, going back to 1965. Subsequently six mining companies (African Rainbow Minerals, Anglo American South Africa, AngloGold Ashanti, Gold Fields, Harmony and Sibanye-Stillwater) and attorneys Richard Spoor Inc, Abrahams Kiewitz Inc and the Legal Resources Centre reached a settlement in the litigation during May 2018. This settlement was approved by the Gauteng High Court on 26 July 2019. As part of the settlement, the Tshiamiso Trust will be established to facilitate the payment of claims to potential claimants or their beneficiaries on behalf of the six mining companies.

Towards the end of 2016, Harmony began a concerted effort to finalise all current and former employees' claims and established the Harmony ReConnect department. As a result, we have finalised more than 10 800 Harmony-related claims to the value of R206 million (US$13.4 million) from the Compensation Commissioner's fund.

Industry milestones: eliminating silicosis
By December 2024, 95% of all exposure measurement results will be below the milestone level for respirable crystalline silica of 0.05mg/m³: Annual incremental targets have been set to ensure we meet this milestone ahead of time and not to wait until the deadline is upon us.
Occupational health and safety milestone – to eliminate silicosis. Using present diagnostic techniques, no new cases of silicosis will occur among previously unexposed individuals (that is people who were not exposed to mining dust before December 2008 and who began working in the industry in 2009): Since 2017, regrettably, one employee has been certified with first degree silicosis. Workshops are being conducted by occupational hygienists at all operations to establish a strategy to achieve this milestone. This will assure a special focus on areas where compliance is lacking.

Radiation protection

Radiation levels and radiation exposure are monitored at all of our operations in South Africa. The dose limits are 50 millisievert a year and 100 millisievert over five years. All our South African operations comply with these limits. Operational controls ensure that elevated monitoring results are investigated and corrected when necessary. Radiological clearances are conducted at decommissioned sites to ensure the future declassification of these areas.

Community health initiatives

Harmony recognises that it can play an important role in the healthcare of surrounding communities. Activities in FY19 included:

- TB dialogue at Tshepisong, near our Doornkop mine, where leaders were mobilised at all levels is in line with the goals and objectives for the National Strategic Plan to promote shared accountability for sustainable response to TB and HIV/Aids
- A TB-focused health campaign was conducted at Bronville and Extension 20 in conjunction with the Department of Health in the Lejweleputswa district (close to Bambanani) and a total of 109 community members were screened for TB – four were referred for further TB management
- Harmony was a co-sponsor of the Run for Diabetes event held in April 2019 to raise awareness of the impact of diabetes on communities and the vital role played by the family in the management, care, prevention and education of diabetes. Employees from our Randfontein head office and the Doornkop and Kusasalethu mines participated in the run. The community-driven event was a collaborative effort between the Kaya FM, Harmony and other sponsors. In addition, Harmony provided free health screenings for all race participants.

Papua New Guinea

In Papua New Guinea, medical centres at Hidden Valley and Wafi-Golpu provide primary healthcare and occupational health surveillance to employees and contractors. Medical registers, in an online information system, are used to track and review each patient's progress from the first visit through to final treatment.

Upper respiratory tract infections remain one of Harmony's main medical concerns in Papua New Guinea.

Despite experiencing between 3m to 4m of rain a year, which naturally suppresses dust, testing for respirable silica is conducted with a focus on the higher-risk areas at Hidden Valley. Baseline data indicates that the risk of personnel contracting silicosis is negligible.

A total of 17 601 health examinations were conducted at the medical centres during FY19 (FY18: 15 198) of which 3 515 (FY18: 3 508) were random drug and alcohol tests.

Upper respiratory tract infections

The Hidden Valley mine is located approximately 3km above sea level and most employees reside in the lower, warmer areas. The regular change in altitude between home and work contributes to various respiratory ailments. Other factors contributing to these infections include low levels of personal hygiene in home villages and airborne pollen during peak flowering times, which affects air quality. The high rainfall all year round maintains high levels of humidity (around 80% to 90%), which creates favourable conditions for fungus, bacteria and viruses to thrive.

In all, 2 191 employees were treated for respiratory ailments in FY19 (FY18: 2 581). An employee education programme on respiratory ailments and gastro-intestinal hygiene has been successfully implemented.

Tuberculosis and HIV/Aids

Hidden Valley has installed a digital X-ray machine and medical laboratory to accurately diagnose tropical diseases, TB and HIV/Aids. In FY19, six new cases of TB were reported during the year (FY18: 22).

In all, 70 personnel underwent voluntary counselling and testing for HIV/Aids during the year at Hidden Valley compared to 472 during FY18.

Malaria

Malaria is endemic in many parts of Papua New Guinea, including work sites such as Wafi-Golpu and Lae, excluding Hidden Valley.

Many employees and contractors working at Hidden Valley reside in areas where malaria is endemic. Our community health projects play a vital role in combatting the disease in these areas. Over the past two years, there has been a 50% increase in patients with malaria-like symptoms.

Community health initiatives

- The community health outreach programme was developed to improve the health and wellbeing of local communities. It is led by the Medical Department and a Health Extension Officer. During FY19, the following activities were conducted:
- **Community medical assistance** in eight mostly obstetric emergencies that were transferred to Bulolo Health Centre
- **Local health centre visits** to maintain working relationships with local health workers
- **Community donations** of beds by Rotary Australia distributed to local health facilities
- **Polio vaccination programme** to manage the polio outbreak declared by the Papua New Guinea government through a national vaccination plan developed by the World Health Organization for immunisation of children from birth to five years – the Hidden Valley health extension officer vaccinated 3 080 children during five campaigns. A further 474 vaccinations were administered within Wafi-Golpu project area communities
- **Cervical cancer vaccination programme**, begun on 16 January 2019 in partnership with the Rotary Club of Boroko, reached 474 girls, aged nine to 14 years, in the Hidden Valley landowner areas while over 6 000 vaccines were administered to communities within the Wafi-Golpu project area

OUTLOOK

Safety: Roll-out and group-wide implementation of phase 2 of our risk management approach is scheduled to be completed by the end of calendar 2019. The focus will shift to phase 3 and phase 4, the full implementation of our risk management systems and critical control management across the organisation, together with safety leadership and behaviour interventions.

While modernising and systematising our work routines is ongoing, the initial roll-out at all operations is expected to be completed by December 2019.

Health: In South Africa, roll-out of the employee psycho-social programme to address the rising scourge of mental illness will be completed in the first half of the new financial year. In addition, given the increase in non-communicable diseases related to obesity, a *Weight Warrior* programme is also to be launched to curb these diseases.

EMPLOYEE RELATIONS

We strive to maintain sound, lasting relationships with our employees. Motivated, productive employees are vital to ensuring successful delivery on our strategy and to the achievement of our business objectives.

HUMAN AND INTELLECTUAL CAPITAL

Prepared in accordance with the GRI Standards:

102-41, 202-1, 202-2, 406-1 401-1, 404-1, 404-2, 405-1, 412-1, 412-2 AND 412-3 and MM4

Our activities in relation to employee engagement support the following Sustainable Development Goals:

1 NO POVERTY

5 GENDER EQUALITY

8 DECENT WORK AND ECONOMIC GROWTH

10 REDUCED INEQUALITIES

17 PARTNERSHIPS FOR THE GOALS

WHAT WE ACHIEVED IN FY19

- Three-year South African wage agreement concluded in October 2018 remains in place
- Employee training and leadership development remained an important focus area across the group
- Sisonke employee share ownership scheme for non-managerial employees in South Africa launched in February 2019
- Stable employee relations environment in South Africa and Papua New Guinea
- Positive and constructive union stakeholder relationships and roll out of employee relations policy framework in South Africa
- Workforce localisation and gender diversification processes progressed in Papua New Guinea
- Good progress made with financial education and counselling programmes that address employees' financial indebtedness
- Promotion of employee home ownership scheme proceeding well in South Africa

APPROACH TO EMPLOYEE RELATIONS

Our employees are central to Harmony achieving its business objectives. We provide training and development, promote fair labour practices for employees and contractors, and encourage local employment opportunities to ensure employees are motivated and productive. Our aim is to provide the opportunity for each employee to develop to their full potential. Employee safety and wellbeing is a priority. For more details, see *Safety and health*.

Our human resource initiatives focus on four underlying goals:

- Entrenching a single organisational culture
- Attracting and retaining employees with high potential
- Developing employees to meet operational skills requirements and improve productivity
- Maintaining effective employee performance and leadership development management systems

GOVERNANCE

Our employment policies, procedures and practices take into account and comply with relevant labour legislation in South Africa and Papua New Guinea. They are aligned with the guidelines of the International Labour Organization (ILO). Recruitment initiatives focus on local communities in both countries. All human resource procedures and policies, including remuneration and incentive schemes, are reviewed regularly.

WHAT WE DID IN FY19

Employee complement

Region	Permanent employees			Contractors			% of employees drawn from local communities		
	FY19	FY18	FY17	**FY19**	FY18	FY17	**FY19**	FY18	FY17
South Africa [1]	**31 201**	32 520	26 478	**6 159**	5 951	4 512	**79**	75	76
Papua New Guinea [2]	**1 675**	1 397	1 300	**738**	818	911	**96**	96	95
Harmony – total	**32 876**	33 917	27 778	**6 897**	6 769	5 423			

[1] Increase in FY18 due to the acquisition of the Moab Khotsong operation and the integration of the related employee complement

[2] Excludes employees of the Wafi-Golpu Joint Venture

Employment, diversity and gender equality

We are committed to building and maintaining a workforce that is representative of the communities within which they are located.

South Africa

Our aim is for our workforce to represent the diversity of South Africa's population and, in so doing, comply with the requirements of the Mining Charter and the employment equity targets submitted to the Department of Labour.

In FY19, 62% (FY18: 60%) of Harmony's management were historically disadvantaged South Africans (defined by the Mineral and Petroleum Resources Development Act as any person, category of persons or community, association or juristic person disadvantaged by unfair discrimination before the Constitution took effect).

Mining Charter III, gazetted on 27 September 2018, introduced new targets and measurement criteria to accelerate transformation within the industry. The implementation guidelines related to the employment equity targets of Mining Charter III have been clarified by industry engagement conducted through the Minerals Council South Africa. Harmony's strategy aims to accelerate the representation of historically disadvantaged persons across a number of managerial levels, particularly women representation, formalising career progression plans and enhancing our employment equity plan to meet the requirements of Mining Charter III. The measuring of employment equity targets has now moved towards measuring employment equity in accordance with the country's national and/or provincial economically active population demographics. The transformation pillars of Mining Charter III include a transition period of five years for progressive implementation.

The new targets set out in Mining Charter III focus on representation by historically disadvantaged persons, including women, at every level. The table below compares Harmony's performance against the targets in each category.

We have one universal salary scale that does not discriminate by gender or on any other arbitrary grounds.

In FY19, a gender diversity strategy to improve women representation in management approved by the board in FY18 was fully rolled out. The strategy sets specific annual targets for the proportional representation of women in management (see table below).

Harmony reports quarterly on its employment equity plan and on progress made to the social and ethics committee. Employment equity reports are submitted to the Department of Labour and the Department of Mineral Resources and Energy annually.

Papua New Guinea

The emphasis here is on attracting and retaining locally-recruited employees, particularly landowners and local citizens. Operations are governed by a three-year training plan lodged with the local Department of Labour in terms of which we ensure that local employees receive ongoing training and succession is managed. In all, 96% of employees (FY18: 96%) at Hidden Valley are local and 14% are women (FY18: 12%).

Talent management

All employee training and development programmes are aligned with the company's strategic and operational needs, and to enable employees to acquire the skills necessary to enable them to enhance employee performance, motivation and productivity.

South Africa

Workforce training and skills development is a key focus area. In FY19, 93% (FY18: 92%) of our South African workforce attended training and skills development amounting to R484 million or US$34.2 million (FY18: R418 million or US$32.5 million). This included South African-based research and development initiatives in exploration, mining, processing, technology efficiency, beneficiation and environmental conservation.

Training in critical skills, such as mentoring, hazard identification and risk assessment, mineral resource management and other initiatives is provided through study assistance and various in-house programmes. In FY19, 109 people (FY18:106) attended critical skills training.

The various training and skills development programmes conducted are summarised below:		
Leadership development		Initiated in FY18 in South Africa, the leadership development competency framework is part of the initiative to improve organisational efficiency and innovation, and includes training and development programmes aimed at improving leadership effectiveness across all levels, from supervisory to executive level. Since its inception, 395 employees have embarked on this leadership journey and 76% had completed the programme by the end of FY19 (FY18: 116 employees enrolled and 63% completed)
Adult education and training		Adult education and training centres at our South African operations run full-time and part-time classes to ensure that employees are functionally literate and numerate to enable personal growth and promote transformation. In FY19, 337 (FY18: 493) employees and nine (FY18: five) community members attended adult education and training at a cost of R30 million or US$2.1 million (FY18: R36 million or US$2.8 million). The average pass rate has increased to 65%, compared to 57% reported in FY18. The part-time e-learning programme caters for 30% of all adult education and training learners. The centre has achieved a 67% pass rate for the two exams written during FY19.

Bursary programme	On completion of their studies, student bursars can apply for Harmony's graduate development bursary programme. In all, 81 bursaries (FY18: 101) were awarded to students studying at tertiary institutions. Of the bursaries awarded in 2019, 75 (or 93%) of the students were from local communities and the remainder from the provinces in which we operate. The pass rate in the 2018 academic year was 90% (FY18: 89%). A highlight of FY19 was that four of our bursary students received awards as top-performing students at their respective tertiary institutions within the fields of medicine, engineering and social sciences.
Bridging school	Harmony's bridging school supports mathematics and science at grade 12 level to assist school leavers improve their final results and gain admission to tertiary institutions. On successful completion of grade 12, some are awarded bursaries, while others apply for learnerships within the company. Since the school's inception in 1996, we have registered 470 students in all – 33 (or 7%) were awarded bursaries and 369 attended our learnership programme. The remaining students were appointed to permanent positions within Harmony.
Mathematics, science and language enhancement project	Harmony recognises the need for learners to achieve excellent results in mathematics and physical science, and the important role teachers play. A dedicated project ensures that teachers with proven credentials and experience are appointed at schools in the communities near our Moab Khotsong operation, where most of the learners have disadvantaged backgrounds.
Learnerships	Harmony runs various formal learnership programmes in mining, engineering and ore reserve management. In FY19, 343 learners (FY18: 306) were enrolled at various stages in learnership programmes. Of the total number enrolled, 95 engineering learners and 34 mining learners completed their programmes in FY19 (FY18: 91 completed learnerships). Most of the learners will be appointed to positions available within the company.
Internship and experiential programmes	In support of our social and labour plans, we hosted 58 students (33 internships and 25 experiential trainees) during FY19 (FY18: 43 students – 18 interns and 25 experiential trainees).
Social plan programme	We continue to provide alternative skills training to employees, current and retrenched, through our social plan programme, which was facilitated by the framework agreement between Harmony and NUM in 2003. The training enables people to remain economically active beyond mining, cushioning the economic impact of unavoidable retrenchments or the loss of employment when mines reach the end of their lives.
Portable skills development	In FY19, 1 114 employees (FY18: 1 532) received portable skills training. Around 51% (FY18: 57%) were proxies (dependents of mine employees). The number of people being trained in portable skills has almost quadrupled in recent years. Over the past 10 years, Harmony has provided portable skills training to approximately 10 000 employees (and/or their proxies) in basic electrical work, end-user computing, basic welding, basic motor mechanics, clothing manufacture, furniture making, plumbing, bricklaying, animal production and mixed farming systems.

Papua New Guinea

- Workforce training at Hidden Valley in FY19 included:
- Production training
- Safety compliance training
- National Training Accreditation Council compliance
- Professional development
- Computer software courses
- Supervisor development programme

Our communities – training and development

Investing in our communities is a key aspect of our socio-economic approach. Considerable time and effort is dedicated to identifying community members who could benefit from bursaries, work experience, internships and the bridging school. Priority is given to local students. We are encouraged that we were able to provide permanent positions to five of the seven students who successfully completed their internship.

Our community skills development initiative, which began in FY17, is aimed at upskilling members of the community surrounding our operations. It creates a pool of trained community members who can be called on to fill appropriate vacancies at our operations.

The Welkom community training initiative launched in FY18. The first intake of 60 youths from local communities have all been transferred to various Free State operations for the competence portion of initial training.

Mining Charter III: employment equity performance by category as at June 2019 [1]				
	Historically disadvantaged persons		Historically disadvantaged females	
Occupation category	Actual (%)	Target (%)	Actual (%)	Target (%)
Board	65	50	24	20
Top (executive) management	58	50	32	20
Senior management	52	60	28	25
Middle management	52	60	23	25
Junior management	63	70	17	30
Core and critical skills	68	60	N/A	N/A
Persons with disabilities	0.4	1.5	N/A	N/A

[1] Includes employees at Moab Khotsong operation

[2] Historically disadvantaged persons exclude white males and foreign nationals

Employee engagement

In applying our "connectedness" value, we ensure that employees feel part of the Harmony family. For employees to be committed, productive and passionate about their jobs, they should feel valued, which in turn boosts morale, productivity and participation because they feel empowered to communicate openly. Regular employee engagement involves two-way communication with employees. Furthermore, suggestions made by employees are taken seriously and acted upon where applicable.

Our ongoing and interactive internal communications process is a platform for management and employee information sharing and engagement. This includes regular meetings with heads of departments, work groups and general manager engagement forums (mass meetings and quarterly productivity meetings in South Africa, and monthly meetings at Hidden Valley in Papua New Guinea), as well as in-depth quarterly internal campaigns to drive important messages across the group, such as those relating to safety, ethics and wellness, among others. We also use printed material (posters, internal newsletters, memos and flyers) and digital media (email,mine television, intranet, website and text messaging).

A quarterly Harmony newsletter "World of Harmony" was launched in August 2018, highlighting among others, Harmony's financial performance, events and community outreach.

Our chief executive officer communicates regularly with employees at meetings, during internal roadshows and by email.

Employee benefits in South Africa

Below is a discussion of some of the benefits available to our workforce in South Africa. For more information on benefits offered to employees, see the *Remuneration report*.

Employee Share Ownership Scheme – South Africa

The Sisonke (isiXhosa for "we are together") employee share ownership scheme (ESOP) was launched in February 2019. The scheme applies to approximately 30 700 non-managerial employees. Under the scheme, 6 700 000 ordinary shares were issued to the Sisonke ESOP Trust and 225 participation units to each eligible employee. The units will vest after three years (in 2022) and will convert into shares, which will then be sold and paid out to each beneficiary together with any dividends accumulated since allocation.

Addressing employee financial indebtedness

Financial over-indebtedness is a scourge affecting a large section of our workforce, across most categories of employees. Six years ago, Harmony embarked on an extensive financial literacy training programme, focusing mainly on lower categories (semi-skilled and skilled employees) to enable employees to better manage their personal finances.

This programme, which has contributed to improved employee morale and engagement, included a review of the arrangements for employees placed under financial administration, as they were unable to service their debts. The review process found that the administration system was being abused with employees being made to pay exorbitant administration fees. Subsequently, a total of 113 employees' accounts were removed from administration through legal court orders. Debt of more than R1.4 million, granted to employees, was written off by creditors.

A process to verify all new emolument attachment orders (garnishee orders) was also instituted before processing them through payroll. These initiatives have since yielded favourable results for employees and the company. The number of emolument attachment orders has reduced by 78% over the past five years and the level of employee indebtedness has also declined. A particular focus of this programme is the discontinuation of non-statutory payroll deductions and notifying employees about emolument attachment orders against their pay. The legal validity of these attachment orders is verified before they are actioned. A total of 113 administration orders were rescinded during the course of FY19.

Decrease in emolument attachment orders

Harmony spent approximately R5 million on programmes to alleviate employee indebtedness during FY19. In all, 23 181 employees or 74% of the workforce (FY18: 20 851 or 78%) have attended the financial literacy and debt counselling programme since its launch in September 2013.

The average debt-to-income ratio of employees has also drastically declined, from 17% to 3% over the past five-year period, a result of the restructuring of accounts.

Promoting home ownership

As part of our home ownership strategy, Harmony is selling company-owned properties to employees at prices below market value. During FY19, 53 company properties were purchased by employees.

In addition, a housing subsidy of R20 000 per person was granted to 20 individual employees purchasing houses from Eddie Modise Properties, a third party renting houses to our employees on special arrangements in Welkom.

In all, 112 employees benefited from a home renovation scheme set up in terms of our social and labour plan at Kalgold with each employee receiving R20 000 for home improvements. Around R3 million (US$0.2 million) was spent on the scheme during FY19. Another 110 employees will benefit from the scheme in the next financial year.

To further facilitate home ownership, the company participates in and supports the pension-backed home loan scheme negotiated for the industry by the Minerals Council. The number of employees participating in the scheme in FY19 declined to 1 110 (FY18: 1 231) as some had paid off their home loans.

Accommodation and living conditions

All employees residing in our hostels are accommodated in single rooms.

There were 7 946 employees and 61 contractors residing in Harmony hostels in FY19, and 2 544 employees were residing in company-owned houses with their families. A total of R556 million was paid to employees residing off company premises in the form of a living out allowance.

Freedom of association, labour disputes and strikes

At Harmony, employees and contractors have the right to freedom of association. We participate in collective bargaining processes and adhere to the collective agreements in each country. We strive for honest, two-way discussions through collective bargaining.

The employee relations policy framework formalising labour union organisational recognition rights at each operation was implemented in FY19.

South Africa

The employee relations environment was stable over the past financial year with no unprotected strike action.

At our South African operations, Harmony recognises five labour unions with representation in FY19 as follows: NUM 58% (FY18: 59%), AMCU 24% (FY18: 24%), UASA 6% (FY18: 6%), Solidarity 3% (FY18: 3%) and NUMSA 4% (FY18: 2%). Some 5% (FY18: 6%) of employees did not belong to a union.

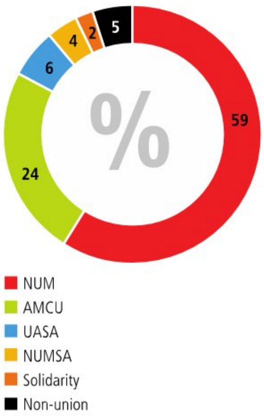
In the fourth quarter of FY19, Harmony was advised that a co-operation agreement had been signed by NUM, Solidarity and UASA which would form a coalition at Harmony with joint representation, as provided by the Labour Relations Act. Combined, this coalition has representation of 67%.

Our multi-union environment promotes co-existence, inclusion and collaboration. In addition to quarterly regional meetings with unions, we also encourage proactive and robust engagement to address particular issues. As communication is ongoing at all levels, we are in daily contact with full-time stewards through our general managers and human resources leaders who interact regularly at union branch level and with shaft committees. Our regional managers hold regular meetings with regional union structures.

We endeavour to maintain peace and stability in our workforce at all times. We want our employees to feel and be safe at work.

To mitigate the risk of labour disputes, we engage frequently with organised labour at mine and company level in addition to direct engagement with employees. We are proactive in addressing employees' queries through established structures and processes.

Union representation at the South African operations as at 30 June 2019



Gold wage negotiations

Harmony negotiates changes to wages and other conditions of employment through a recognised collective bargaining structure at a centralised industry forum under the auspices of the Minerals Council. The three-year wage settlement reached on 3 October 2018 with the unions representing the majority of employees at Harmony, and extended to all employees within the bargaining unit, remains in place.

Papua New Guinea

We engage continuously with all stakeholders, including employees, contractors, and national, provincial and local government, as well as landowners and regulators.

There are no active unions at Hidden Valley where industrial relations is currently overseen by an employee representative committee. Wage increases are agreed by way of consultation with workers through a joint forum of management and the employee representative committee.

Human rights

Respect for human rights is entrenched in and underpins our values. Human rights are specifically catered for in our human resource policies, charters and contracts of engagement. The human resources function and community engagement managers closely monitor our human rights performance at operational level.

Harmony upholds the United Nations' Global Compact's principles on human rights and labour. Following a survey of the company's policies, procedures, and labour practices in FY17, certain policy changes were undertaken, including internal communication campaigns on Harmony's disciplinary procedure and code of conduct.

With regard to unethical behaviour, Harmony has outsourced a 24-hour anonymous crime reporting line for employees, or any member of the public, to inform management of any suspicion of unethical behaviour, including crime, corruption and bribery. See *Corporate governance* for more information.

OUTLOOK

Our focus in the coming year will be to address the new Mining Charter III targets, especially those relating to women in management and to their representation in junior management.

DELIVERING PROFITABLE OUNCES

OPERATIONAL PERFORMANCE

The operational excellence strategic pillar is vital to delivery on our strategy – producing safe, profitable ounces and increasing margins.

Operational excellence aims to create a safe and enabling environment for delivery on our operational plans, reduced unit costs and improved productivity so as to maximise the generation of free cash flow.

WHAT WE ACHIEVED IN FY19

Safety

- Safety is an imperative
- Maintained our focus on safety risk management, the monitoring of controls leadership and safe behaviour to imbed a proactive safety culture
- Group lost-time injury frequency rate improved to 6.16 per million hours worked

Production

- 17% increase in production – Moab Khotsong and Hidden Valley boost production and cash flow
- Production guidance achieved in line with annual guidance – fourth consecutive year
- 2% increase in underground recovered grade – seventh consecutive annual increase

KEY ASPECTS OF OPERATIONAL EXCELLENCE

Operational excellence is core to generating cash flow

Our approach to improved operational performance is driven by our commitment to operational excellence and to ensuring safe, consistent, predictable and profitable production.

We aim to create an enabling environment for delivery on our operational plans, reduced unit costs and improved productivity so as to maximise the generation of free cash flow.

SAFETY AND HEALTH	INFRASTRUCTURE MANAGEMENT	MANAGEMENT OF GRADE AND MINING FLEXIBILITY
• Live longer journey • Risk management and focus on critical controls	• Improved insurance rating • Fewer unplanned stoppages	• No mining below cut-off grade • Incorporating flexibility into our mining plans

ENVIRONMENTAL AND SOCIAL MANAGEMENT	COST MANAGEMENT	CAPITAL ALLOCATION
• Sustainable and responsible environmental stewardship • Community engagement and social upliftment	• Focused cost management and project delivery • Improved productivity	• Prioritised and focused capital allocation for growth and to sustain the business

SAFETY AND OPERATIONAL RISK MANAGEMENT

Safety is an imperative. We are committed to ensuring safe production, to preventing fatalities and to embedding a proactive safety culture. Tragically, 11 of our colleagues lost their lives in separate mining-related incidents during FY19. Harmony embarked on a safety performance improvement journey in FY16 that has included the adoption of global best practice safety standards, including among others, a four-layered risk-based management approach, implementation of modernised safety systems, and an intensified focus on leadership development and training to address behaviour to achieve our goal of zero fatalities. We have seen improvements in FY19 with the group is lost-time injury frequency rate improving to 6.16 (6.26 in FY18) and the group fatal injury frequency rate improving to 0.13 (0.16 in FY18) (per 1 million hours worked). Refer to *Safety and health* for further details.

Managing operational risks: Operational risk management is integral to our business and entails managing risks effectively while working safely and being proactive. Risk management helps to ensure that all supporting systems are functioning efficiently. Safety hazards and operational business risks are identified and dealt with continuously at each of our operations.

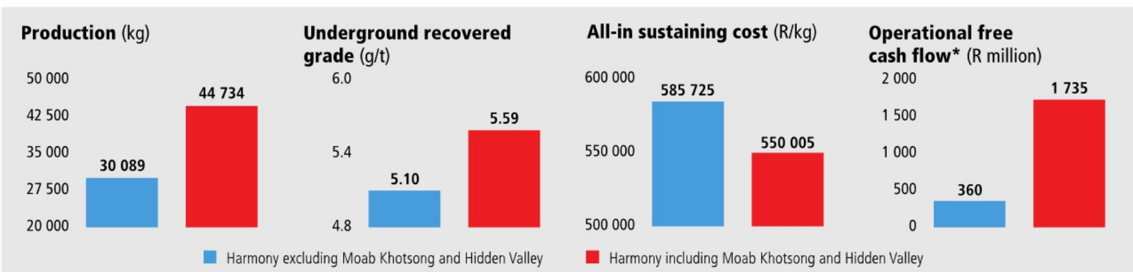
WHAT WE DID IN FY19

In line with our strategy, both annual gold production and cash flows were boosted by the inclusion of a full year of production from Moab Khotsong and Hidden Valley, as illustrated in the graphs below

In FY19, Harmony increased production by 17% to 1.438Moz of gold (FY18: 1.228Moz) and achieved a 2% increase in underground grade mined to 5.59g/t (FY18: 5.48g/t).

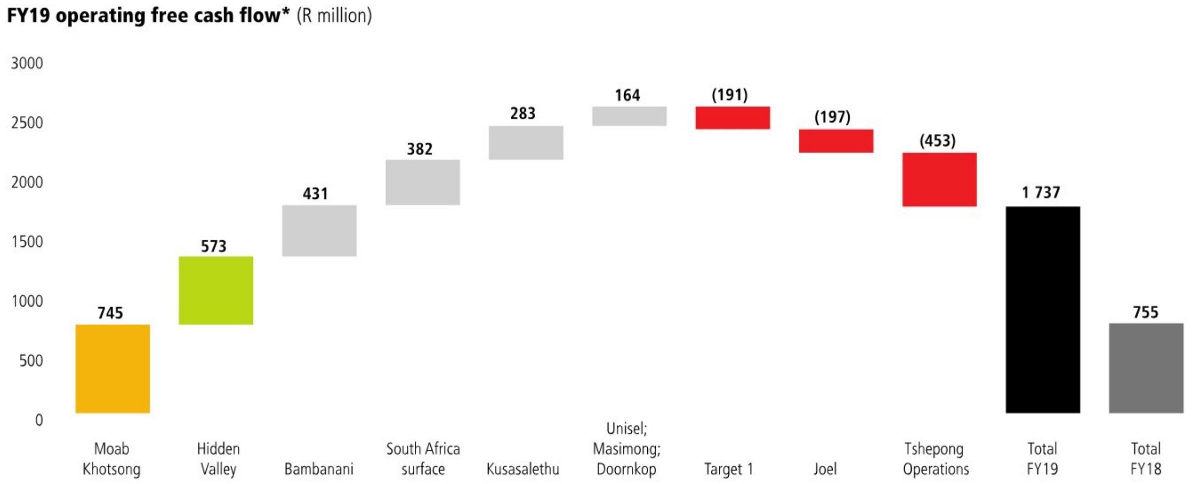
Harmony achieved an all-in sustaining unit cost of R550 005/kg (US$1 207/oz), an 8% increase year on year, due largely to increases in salary and wages and Eskom electricity tariffs, among others, and lower production from the Tshepong Operations in FY19.

Harmony today – with and without Moab Khotsong and Hidden Valley



Operating free cash flow

Harmony is focused on generating operating free cash flow*. In FY19, Moab Khotsong and Hidden Valley proved the merits of our investment strategy and were the largest contributors to operational free cash flow.



** Operating free cash flow = Revenue – cash operating cost – capital expenditure +/- impact of run of mine (ROM) costs as per operating results*

Performance at selected operations FY19:

Moab Khotsong: Recorded gold production of 7 928kg (254 891oz) at an average recovered grade of 8.17g/t for the first full year in which this operation was included in our portfolio.

Hidden Valley: Excellent safety performance, good operational momentum and disciplined cost management contributed to gold production of 6 222kg (200 042oz), generating operating free cash flow of R573 million (US$40 million) at a margin of 16%. Stripping of the cutbacks will continue for the next two and a half years to enable delivery of an average all-in sustaining cost of less than US$950/oz over the life of mine.

Tshepong Operations: Gold production decreased by 15% to 7 967kg (256 146oz), due to a 10% decrease in the recovered grade to 4.94g/t and a 6% decrease in tonnes milled. The performance was impacted mainly by a lack of flexibility, a result of the decline in the availability of stoping panels to mine. Post year end, we expect improvements in the mine's overall performance, following focused stoping development, and an improvement in overall mining and grade discipline.

Joel: Gold production decreased by 4% to 1 567kg (50 379oz), as a result of a 6% decrease in tonnes milled to 429 000t. Grade increased by 1% to 3.65g/t. The Joel decline project is nearing completion and an increase in both production and grade is expected in FY20.

Target 1: Gold production decreased by 7% to 2 653kg (85 296oz) due to a 14% decrease in tonnes milled to 588 000t, partially offsetting the 7% increase in recovered grade to 4.51g/t. A capital efficiency project to move the ore and rock crusher, associated mining activities and services closer to the working areas is underway to improve the overall efficiency and productivity of the mining circuit at Target 1.

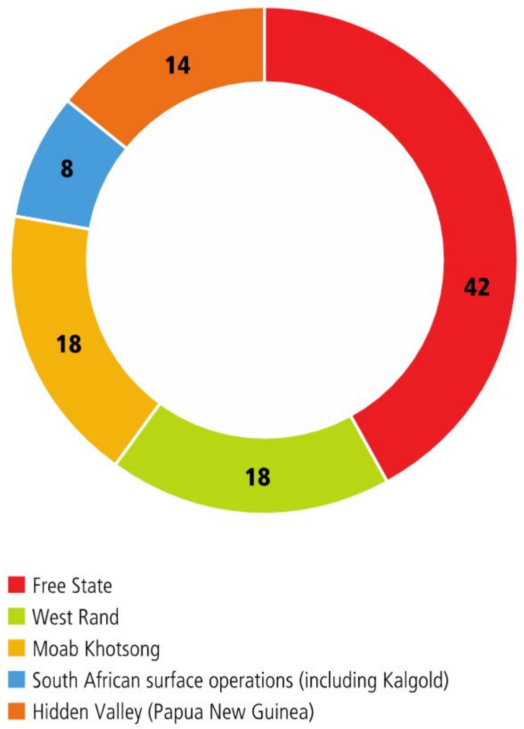
Details of performance by each operation are provided in the document, *Operations 2019* available online at *www.har.co.za*.

Annual underground recovered grade (g/t)

Average annual gold price received

Annual all-in sustaining costs

Production by region



FY20 OUTLOOK

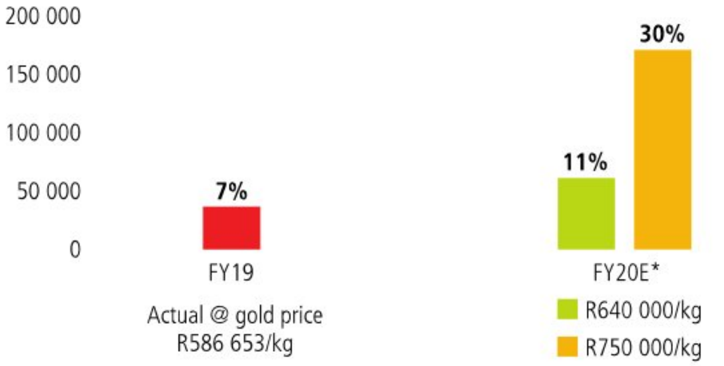
Operations geared to take advantage of higher gold prices

In the next financial year (FY20), we plan to produce approximately 1.46Moz of gold at an all-in sustaining unit cost of R579 000/kg.

As price takers, we aim to control what we can – safety, costs and production. Harmony has a mixed portfolio of assets which are highly leveraged operationally to the gold price. Operational excellence – which includes safety – will remain a key focus area to ensure delivery on our strategy to increase margins and to position our operations to take full advantage of a rising gold price environment.

Harmony's operational gearing is illustrated in the graph below:

All-in sustaining cost margin:
scenarios at varying gold prices (R/kg)



* *FY20E based on guidance assumptions: production of 1.46Moz at an all-in sustaining cost of R579 000/kg (including impact of gold hedge)*

Key focus areas and actions FY20:

- Improve safety focus and performance at all operations
- Meet all operational targets and generate free cash flow
- Improve operating performance at Tshepong Operations
- Increase focus on cost management and reduce unit cost by improving safety performance, delivering on our production plans, and increasing the underground recovered grade and the productivity of our mining teams

FY20 production and capital guidance

Operation	**Production**	**Capital expenditure [1,2]**		**Life of mine**
	(oz)	(Rm)	(US$m)	(years)
Tshepong operations	290 000	1 083	77	19
Moab Khotsong	246 000	730	52	9
Bambanani	77 000	63	4	4
Doornkop	113 000	372	26	17
Joel	61 000	164	12	10
Target 1	84 000	408	29	7
Kusasalethu	169 000	285	20	5
Masimong	69 000	25	2	1
Unisel	32 000	11	1	1
Underground operations – total[3]	**1 141 000**	**3 141**	**223**	
South African surface operations (tailings and waste rock dumps)	87 000	34	2	14+
Kalgold	42 000	20	1	12
Hidden Valley [4]	190 000	1 521	108	4
Total	**~1.460 Moz**	**4 716**	**334**	

[1] Excludes Wafi-Golpu
[2] At an exchange rate of R14.11/US$
[3] At an underground recovered grade of ~5.96g/t
[4] Includes deferred stripping

EXPLORATION AND PROJECTS

Exploration is vital to ensuring the long-term economic sustainability of Harmony as a mining company.

WHY EXPLORATION MATTERS

Exploration and the discovery of significant, economically viable orebodies suitable for development are central to the long-term sustainability of Harmony's business. By ensuring a future pipeline of reserves and resources, Harmony will be able to operate sustainably and profitably and to create value in the long term.

WHAT WE ACHIEVED IN FY19

Papua New Guinea

- Wafi-Golpu, a greenfield exploration project, an excellent long-term opportunity
  - However, permitting and legislative changes may impact the availability of the project
- Geotechnical drilling confirms viability of early access of the Nambonga decline
- Near-mine exploration in the vicinity of Hidden Valley targets potential high-grade satellite epithermal gold deposits

South Africa

- Exploratory greenfield drilling currently underway at Target North
- Focus on organic brownfield exploration at Kalgold –mineral resource estimate updated in January 2019:
  - 89.8MT @ 0.91g/t for 2.636Moz of gold
  - prefeasibility study continues
- Tailings retreatment expansions are planned or underway:
  - the Central Plant tailings retreatment to be expanded to 500 000 tonnes a month
  - tailings reclamation at Joel Plant – prefeasibility underway
  - Mispah tailings retreatment project - prefeasibility study indicates an 11-year project life

OUR APPROACH

Our exploration strategy aims mainly to pursue brownfields exploration targets close to existing mining infrastructure. This will drive short- to medium-term organic ore reserve replacement and growth to support our current strategy to increase production of quality ounces and to mitigate the risk of a depleting ore reserve base.

Key work streams underpinning the FY19 exploration programme were:

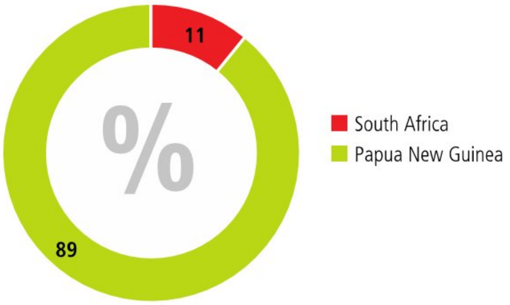
- Brownfield exploration at Hidden Valley and Kalgold to optimise existing open pit operations and extend mine life
- Brownfield exploration at underground operations in South Africa
- Greenfield exploration currently underway at Target North, South Africa

WHAT WE DID IN FY19

In FY19, we spent R526 million (US$37 million) (FY18: R457 million; US$36 million) on exploration in total, broken down by country as follows:

- **Papua New Guinea:** R468 million (US$33 million) (FY18: R407 million; US$37 million) was spent on exploration, driven largely by Wafi-Golpu related activities. Expenditure of R278 million (US$20 million) is planned for FY20
- **South Africa:** R58 million (US$4 million) (FY18: R50 million; US$4 million) was spent on exploration with expenditure of R96 million (US$7 million) planned for FY20

Group exploration expenditure (R526 million; US$37 million)



Exploration – Papua New Guinea

Our exploration programme in Papua New Guinea focused on near-mine brownfield exploration aimed at extending Hidden Valley's operating lie and greenfield exploration and rationalisation of our tenement holdings. A summary of the work done in the past year is as follows:

Brownfield focus around Hidden Valley:

- Exploration programmes focused on near-mine brownfield targets on the contiguous tenement package surrounding the Hidden Valley mining lease which comprises 502km^2 of tenure
- Prefeasibility studies on the down-dip extensions of the Hidden Valley and Kaveroi orebodies to extend mine life continued
- Generative work for high-grade satellite gold deposits has developed new drill targets at the Webiak Prospect:
    - Located approximately 7km north of the Hidden Valley mine
    - Low sulphidation epithermal gold-silver vein mineralisation
    - Drill testing planned for the first quarter of FY20

Greenfield exploration and tenement rationalisation:

- Reduction in regional greenfield exploration programmes and tenement holding in favour of near-mine brownfield exploration continued
- Harmony (100%) tenement holding reduced to 711.8km^2 (FY18: 963.75km^2)
- Joint venture (Harmony 50%) tenement holding reduced to 182.3km^2 (FY18: 325.3km^2):
    - Harmony continues to manage exploration on the portfolio tenement package on behalf of the exploration portfolio joint venture participants (ultimate parent companies: Newcrest 50%; Harmony 50%)

Exploration – South Africa

Near-mine and on-mine brownfield exploration and tailings retreatment form the basis of much of our exploration and project work in South Africa.

Underground exploration

In all, 73 118 metres (FY18: 62 961 metres) were drilled across our underground operations in South Africa. This underground drilling provides useful information. Mine geologists and planners use drilling information to determine a mine's development strategy, its mine plan and eventually its economic viability.

Tshepong – B Reef

The focus of underground exploration drilling in FY19 was the B Reef at the Tshepong and Phakisa sections at Tshepong Operations. A new block of ground was identified at the Phakisa section where development towards the B Reef will begin in FY20.

Target North

Drilling of the first borehole from surface began towards the end of FY19 and a total of 1 542 metres was drilled. Drilling of three initial exploration boreholes is planned to confirm the geological model and test the Ventersdorp Contact Reef, as well as the sub-cropping Dreyerskuil and Eldorado (EA) Reefs. Drilling will continue in FY20.

Moab Khotsong – 101 level

Underground exploration drilling is underway in two specific blocks above infrastructure in the Zaaiplaats project area with the aim to identify opportunities for early access and mining of these blocks of ground. Drilling will continue in FY20.

Joel

145 level exploration: Exploration is aimed at upgrading the current resource to the indicated level and to determine the economic mining limit to the north and northeast below current mining infrastructure to ensure the 145 level decline project remains economically viable. Exploration drilling began in August 2019 and is due to be completed in June 2020. Three long inclined boreholes will be drilled in all. The first hole is currently at 220m and we expect to intersect reef at 300m.

High-grade Beatrix Reef extension (Klippan): Exploration is planned to upgrade the resource to the indicated level and determine the economic mining limit in the north and north east areas originally classified as non-depositional zones. Opening up this area will greatly reduce the risks of the initial development-constrained mining areas in the 137 project area. Exploration is scheduled to start in November 2019 and it due to end in April 2020. Three boreholes will also be drilled in this area.

Kalgold brownfield exploration programme

Kalgold's mine titles provide an ideal mix of near-mine and new mine opportunities that can leverage existing infrastructure and be fast-tracked into production with aggressive exploration.

A total of 26 790 metres of drilling was completed in FY19, bringing the total drilled to date to 48 610 metres (210 boreholes). Drill results have been very encouraging and a mineral resource update and prefeasibility study to optimise the Kalgold operation based on the results of the exploration drilling is underway. Further detailed interpretation and field work to put anomalies in context with geology is planned for the first quarter of FY20, with the Kalgold prefeasibility study scheduled for completion in FY20. Future options will be evaluated once certain technical and economic criteria have been met.

Projects – Papua New Guinea

Wafi-Golpu copper-gold deposit permitting process and progressing the special mining lease application

Wafi-Golpu project (100%) – Key statistics:

- Mineral resource contains 18.6Moz gold and 8.6Mt copper
- Estimated life of mine of more than 28 years
- Steady-state production estimated at 161 000t of copper, 266 000oz of gold (more than 1.4Moz of gold equivalents ounces annually)
- Above average grades:
  - gold – 0.90g/t
  - copper – 1.27%
- In terms of gold production, an all-in sustaining cost of minus US$2 128/oz is estimated
- For copper, production costs of US$0.26 lb are in the lowest decile

The Wafi-Golpu project, a 50:50 unincorporated joint venture between subsidiaries of Harmony and Newcrest, is a viable development of a high-quality resource.

The special mining lease application was submitted to the Papua New Guinea Mineral Resources Authority in August 2016 and amended in March 2018, when an updated facility study was tabled, including deep sea tailings placement as the preferred tailings solution. The Environment Impact Statement was submitted in June 2018.

Permitting of the Wafi-Golpu project has been delayed. The Wafi-Golpu joint venture entered into a Memorandum of Understanding (MOU) with the Government of Papua New Guinea in December 2018, targeting a special mining lease grant by June 2019. Since the signing of the MOU in December 2018, a legal matter between the provincial and national government has interrupted the permitting process, and continues to do so. The Wafi-Golpu joint venture remains ready to engage with the Government of Papua New Guinea and the regulators. At this stage, the permitting timeline and roadmap are still to be redefined.

The Papua New Guinea government has commissioned a review of the mining regime. Any change to the Papua New Guinea mining regime may result in the imposition of additional restrictions, obligations, operational costs, taxes or royalty payments and could have a material adverse effect on Harmony's business, operating results and financial condition.

The Chamber of Mines and Petroleum of Papua New Guinea, as the representative industry body, has been collating information from industry participants and engaging with the Papua New Guinea government as part of the industry's response to the review proposals.

The primary project deliverable is the commissioning of a mining operation to produce at nameplate capacity of 16.84Mtpa a high-quality copper and gold concentrate with ore sourced from three block caves.

The Wafi-Golpu project will progress to execution when:

- the special mining licence, the environmental impact statement and all other necessary tenements and permits required have been granted
- all required agreements with the State and landowners have been signed
- all necessary approvals have been received from the boards of directors of the ultimate holding companies of the joint venture partners

Once the special mining licence has been granted, initial activities will focus on development of site access roads and bridges, and construction of the Nambonga and Watut declines.

Projects – South Africa

Kalgold expansion project

Following on from the current exploration drilling programme at Kalgold, this expansion project is aimed at optimising/increasing production. Kalgold currently treats approximately 130 000tpm.

A prefeasibility study began in June 2018 to investigate various plant throughput options. The second phase of the exploration drilling programme was completed in December and the resource estimate from this work is used in the study. A prefeasibility study is currently underway and due to be completed in August 2019. Once technical and economic criteria have been met, future options will be evaluated.

Underground projects

Underground projects are at Joel North, Target 3 and at Moab Khotsong, where two separate projects, the Great Noligwa shaft pillar extraction and the Zaaiplaats projects, are currently underway.

For the Zaaiplaats project, underground exploration drilling is underway in two specific blocks above infrastructure in the Zaaiplaats project area and is aimed at identifying opportunities for their early access and mining. Drilling will continue in FY20.

Tailings retreatment expansions

Several tailings retreatment growth projects are currently underway to optimise available surface sources in the Free State. These include:

- **Central Plant tailings retreatment facility – reclamation "plus"**: The initial project operated at monthly nameplate capacity 500 000 tonnes for most of FY19. Further expansion to monthly capacity of 700 000 tonnes is planned. The feasibility study met our economic and technical criteria and the expansion project is currently in design phase. Capital allocation is awaited
- **Mispah tailings retreatment:** A prefeasibility study was conducted to investigate the economic viability of retreating the tailings material stored in the Mispah 1 tailings facility. The tailings are to be treated at the Noligwa plant and the residue deposited onto the Mispah 3 extension of the Mispah tailings storage complex. The prefeasibility study indicated an 11-year project life with estimated production of 7 922kg of gold from the reclamation of 66.3Mt of tailings at a monthly rate of 510 000 tonnes. Project capital is estimated at R624 million and the project will yield a net present value of R400 million at a gold price of R585 000/kg and a 7.5% discount rate. The results of a risk-based study conducted by SRK on the installation of lining under the Mispah 3 TSF extension are to be presented to the Department of Water and Sanitation. The outcome of this engagement with the department will guide the timing and scope of the feasibility study, which is currently on hold
- **Joel tailings reclamation:** A prefeasibility study is underway to investigate the potential benefits of recovering gold from reclaimed tailings at the Joel plant and depositing the retreated tailings onto the Joel tailings storage facility

For further detail on our exploration programme and more information on the projects currently underway, please see *Mineral Resources and Mineral Reserves 2019*, available at *www.har.co.za*.

MANAGING OUR SOCIAL AND ENVIRONMENTAL IMPACTS

SOCIO-ECONOMIC DEVELOPMENT

Harmony aims to be relevant to our host communities. We are committed to promoting sustainable socio-economic development so as to mitigate the impacts of our activities and to ensure a positive legacy.

SOCIAL AND RELATIONSHIP CAPITAL

Prepared in accordance with the GRI Standards:
203-1, 203-2, 413-1, 413-2, 414-1, 414-2, 419-1 and MM5

WHAT WE ACHIEVED IN FY19

- *Included in the FTSE4Good Index of responsible investment in recognition of our performance*
- Board approved new preferential procurement and enterprise and supplier development strategy

South Africa

- Spent R6.3 billion on black economic empowerment companies ** – of this R1.9 billion* was spent with small businesses operating in five mine host communities
- Focused drive to increase procurement opportunities for businesses in host communities, including the hosting of community supplier days
- Projects covered by second generation social and labour plans completed at a total cost of R476 million (includes R303 million investment by government) over five years 2013-2017
- Third generation infrastructure and agriculture projects implemented

** Spend with companies having black economic empowerment shareholdings of at least 50% + one vote*
*** Spend with companies having ownership of 25% + 1 vote*

Papua New Guinea

- Continued focus on community agri-business projects offering alternative sustainable income sources
- Successful cocoa and coffee pilot projects in Papua New Guinea receive many accolades attesting to their success with one farmer winning gold for his cocoa

OUR APPROACH TO SOCIO-ECONOMIC DEVELOPMENT

Harmony's socio-economic development initiatives aim to uplift and empower local communities and to make a positive and lasting contribution in the regions in which we operate. Harmony's strategy has been expanded to include a fourth pillar, Responsible stewardship, which entails managing and mitigating the impacts, including social impacts, of our business activities. As the primary employer in the Free State, in South Africa, and at Hidden Valley, in Papua New Guinea, we make an economic contribution through the taxes, royalties and salaries and wages paid.

Total economic value distributed – to employees, to our host communities, to government and to suppliers including local enterprises – is derived from among others salaries and wages, investment in socio-economic initiatives, taxes and royalties, and procurement, which amounted to R28.6 billion in FY19 (FY18: R24.2bn). Furthermore, we aim to improve quality of life through socio-economic spend of not less than 1% of net profit after tax which will effectively be returned to communities for shared benefit.

In FY19, we continued to align our socio-economic strategy with the overall aims and targets of the United Nations Sustainable Development Goals. For more information on this, see
Our sustainable development framework in the 2019 Integrated Annual Report.

GOVERNANCE

The social and ethics committee of the board oversees the policy and strategies pertaining to corporate social responsibility, including socio-economic development, and to public safety. Responsibility for implementation of related policies vests with the management team and the executive: sustainable development. Discipline-specific policies are supported by guidelines and standards which inform the development of site-specific management systems, which are aligned overall with our sustainable development framework.

Socio-economic development at Harmony FY19

Our aim is to uplift and empower local communities to become self-sustaining, and to be a catalyst for economic growth while creating alternative economies to support communities once mining ceases

	INVESTING SOCIAL LICENCE TO OPERATE	PREFERENTIAL/LOCAL PROCUREMENT	ENTERPRISE AND SUPPLIER DEVELOPMENT	CORPORATE CITIZENSHIP
	Focus on identified mine community development initiatives to stimulate socio-economic growth and development	New strategy in place promotes procurement spend to stimulate economic activity in local host communities	New approved strategy to promote and local enterprise	Supplements other socio-economic activities and initiatives to generate positive impacts and outcomes
South Africa →	Mine community development governed by the Mining Charter and social and labour plans **Spend: R42 million**	Focused on black economic empowerment and driven by the Mining Charter **Spend: R6.3 billion****	Supporting and promoting small local black-owned businesses to become suppliers **Spend: R1.9 billion***	Focus on: • education • socio-economic advancement projects • health • arts, culture, sports and recreation **Spend: R32 million**
Papua New Guinea →	Related activities are governed by the memorandum of agreement with various levels of government Focus on: • community infrastructure (roads, bridges, educational facilities, law and order facilities, and water supply and sanitation systems in landowner and local community villages) • health programmes • community agriculture programmes **Spend: R14 million**	Aligned with terms of the memorandum of agreement for procurement in country **Spend: R2.2 billion**	Aligned with terms of the memorandum of agreement – localised with Morobe Province **Spend: R1.1 billion**	Included in social licence to operate

Spend with companies having black economic empowerment shareholdings of at least 50% + one vote

*** Spend with companies having ownership of 25% + 1 vote*

WHAT WE DID IN FY19

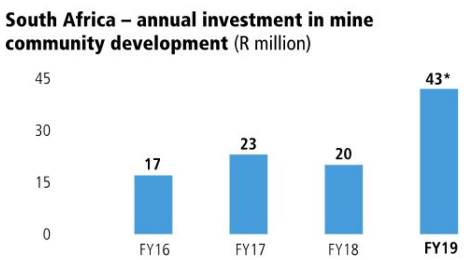
Delivering on our licence to operate

At Harmony, socio-economic development can be broadly defined as an outcome of local initiatives by stakeholders identifying and using local resources, ideas and skills to stimulate socio-economic growth and development. The outcome is the creation of employment opportunities, poverty alleviation and addressing inequality while attracting external investment, all of which are important in creating sustainable local economies.

South Africa

Harmony's South African operations are governed by approved mining rights, which are each bound by an agreed and approved social and labour plan, incorporating local economic development initiatives executed in terms of the Mining Charter, the Mineral and Petroleum Resources Development Act, and the codes of good practice for the minerals and mining industry.

In South Africa, between 2013 and 2017, our total direct investment in mine communities was R173 million. This was further augmented by the Department of Human Settlements' investment of R303 million. Commitments towards mine community development for the period 2018 to 2022 total R268 million, of which R43 million was spent in FY19.



** Assured by Ngubane and Co*

As mine community development projects in the social and labour plans are implemented, we continue to engage with the relevant municipalities and host communities to ensure that delivery expectations are met. These engagements are also intended to identify new projects, aligned with the integrated development plans of the municipalities, as further local economic development support projects provided for in the social and labour plans.

We measure the effectiveness of our investments by their impact. As a result of projects implemented in FY19, 206 job opportunities were created for host communities across Harmony's South African footprint. Seven local entrepreneurs assisted with delivery of these projects.

Selected community development projects in South Africa

Infrastructure development

In terms of the National Development Programme, development of a strong network of economic infrastructure – transport, energy, water resources - will promote economic investment and job creation. As road infrastructure in particular is essential to Welkom's integration within the national economy, Harmony has allocated R58 million over the next four years to road-building in Matjhabeng, the municipality within which Welkom falls, in the Free State. This funding will cover the resurfacing and resealing of roads in various towns in the local municipality. Local suppliers benefit from this project, which has created over 200 job opportunities. In the first year of the initiative, the contract was awarded to a local 100% black-owned joint venture, which subcontracted part of the work to six other local companies.

Agriculture

Poultry farmers in Lesotho, a labour-sending area, received a mobile refrigeration truck and abattoir equipment to enable them to service restaurants, supermarkets and the general public. The project was undertaken as abattoir facilities were not available in the area. The abattoir will create employment opportunities for 25 people.

Agriculture programmes

Improving agricultural productivity is central to addressing poverty in South Africa, particularly in our mining communities. The role of the sector as a food provider is particularly relevant, given increasing concern about food security.

Harmony believes that mining and agriculture can co-exist, and that both industries can contribute to economic growth. As mines close when they reach the end of their economic lives, agriculture projects can sustain an alternative industry that could continue to contribute to the local economy.

Harmony has initiated several agriculture projects with commercial and subsistence farmers. The vegetable tunnel project is a commercial agricultural initiative that was successfully implemented for our Doornkop (Soweto) and Moab Khotsong (Orkney) mines. It is being rolled out at Wedela in Carletonville (Kusasalethu). The project involves the production of crops by local women and youth. Produce is sold at markets in Tshwane and Johannesburg.

The Broad-Based Livelihoods Programme, a subsistence farming project with a step-wise approach to maximising participation (broad-based) and enabling easy entry for all interested parties (inclusive), encourages people or households to systematically improve as:

- producers: to attain food security and stability
- income generators: by selling, saving and adding value
- entrepreneurs: improving business management skills relating to production and sale of produce
- employers: employing family, neighbours and other community members

A horticulture programme to provide protective cultivation in the form of “greenhouse” tunnels or shade-cloth structures has been rolled out. Gardening projects for food security in the Orkney area support 60 families and involve the training 1 000 individuals in basic agriculture and the installation of tunnel infrastructure. Around 80% of the beneficiaries are women and youth.

Educating, upskilling and enabling youth

Two mobile youth development hubs were purchased for host communities in the North West and Free State provinces to deliver information and communication technology, including internet access, printing, copying, and typing services, business and job vacancy searches, and business training and development.

In nurturing tomorrow’s leaders, Harmony recognises sport as a tool for emotional and psychological well-being as sport promotes positive social traits among those participating, including co-operation, sharing, respect, altruism, among others.

The Virginia Sports Academy, which has been operating for close on a decade now, is fully funded by Harmony, and employs over 20 people and supports 50 boys at an annual cost of approximately R7 million. The success of this initiative was underscored when 11 rugby players from the Academy participated in regional and national teams. Two rugby players represented South Africa in Under 19 invitational Sevens Rugby Dubai and in the 15-man tour of Italy.

The soccer team participated in the Engen provincial semi-finals and regional Kay Motsepe Cup with two soccer players selected for the South African Under 20 team at Olympic qualifiers in Morocco.

The Virginia Jewellery School, fully supported by Harmony and employing 12 people, funds 13 students and two shops at an annual cost of approximately R4 million. In November 2018, 12 students completed learnerships. Since 2011, 24 students have completed learnerships and qualified as goldsmiths, and 13 students have been employed by the Virginia Jewellery School and retail shops. Five went on to open their own jewellery enterprises.

Papua New Guinea

Regulatory control here vests in a memorandum of agreement between Harmony, various regional and local governments, and the Hidden Valley landowner association with similar socio-economic commitments to those in South Africa. This is presently under development (in draft) as part of the permitting process for the Wafi-Golpu project.

In line with Hidden Valley’s current memorandum of agreement, Harmony continues to offer business development opportunities to landowners. Similar opportunities are expected to be available with the proposed development of the Wafi-Golpu project.

Harmony’s social programmes at the Hidden Valley mine and within the Wafi-Golpu project area focus on building, repairing and upgrading social infrastructure such as roads, bridges, educational facilities, healthcare services, law and order facilities, water supply and sanitation systems in the landowner and local community villages. Harmony has also established various schemes intended to provide alternative sustainable income sources for mine and project-area landowners. Collectively, these initiatives continue to generate a range of positive impacts for local communities in the Morobe Province and beyond.

A total of R14 million (US$1 million) was spent on social responsibility projects within Papua New Guinea for FY19. These projects continue to foster positive relationships with mine and project area host communities.

Community infrastructure programmes

Harmony has continued to contribute towards the maintenance of critical sections of the Lae-Bulolo highway and the Wau Bulolo access road. Harmony has also assisted in repairing the Mabung and Kwembu bridges giving access to landowner villages in the Hidden Valley area and the Hekeng footbridge in the Wafi-Golpu Project area. An extensive upgrade to the Bulolo police station was completed during FY19, providing fencing, water supply and sanitation to previously condemned parts of the facility.

Education

Education programmes in FY19 delivered across the Hidden Valley and Wafi-Golpu areas included:

- Maintenance and upgrades to elementary and primary schools in the mine and project areas
- Provision of stationery and materials for students and teachers at elementary and primary schools
- Landowner School Fee Assistance Programme
- Harmony's Tutudesk initiative (including 2 000 Tutudesks distributed among 39 elementary schools in the Wau, Bulolo and Wafi-Golpu project area)
- Assisting provincial government in appointing new teachers
- Adult literacy programmes and education initiatives focused on women and children

Health programmes

Various community health outreach programmes are in place to improve the health and wellbeing of local communities. During FY19, health-related activities included:

- Maintenance and upgrades of mine and project area first aid posts and clinics as well as assistance with staffing
- Obstetrics training at the Bulolo health centre
- Assisting the Papua New Guinea Department of Health to administer polio and cervical cancer vaccinations (3 080 and 474 polio vaccinations administered respectively in Hidden Valley and Wafi-Golpu communities and another 6 000 for cervical cancer in Wafi-Golpu communities)
- Routine health centre visits and health patrols with focus on antenatal care and childhood immunisation
- Community medical assistance, including emergencies and transfers to Bulolo and Lae health centres
- Distributed 23 beds donated by Rotary Australia to four health facilities in the Hidden Valley area
- Contributions to power running costs at local hospitals

Community agricultural programmes

During FY19, the agri-business projects established by the Hidden Valley mine and Wafi-Golpu project continued to grow considerably. These projects aim to offer alternative sustainable income sources for mine and project area communities.

The coffee pilot programme initiated in FY19 for Hidden Valley communities included the training of 129 farmers in coffee nursery development, husbandry and farm rehabilitation as well as the provision of tools and equipment and reticulated water supply to community nurseries. The pilot scheme planted 6 000 coffee seedlings for the forthcoming coffee season. A highlight of the year was the first commercial sale from the scheme when 400 bags of parchment generated PGK75 000 (R316 984; US$22 346) for the Nauti, Kuemba and Winima producers.

At the Wafi-Golpu project, a similar coffee programme is under development and gaining momentum. Extensive efforts were made to rehabilitate neglected coffee plantations within three Yanta villages during FY19. Since the start of the programme in late 2018, an area equivalent to 17.3 hectares of coffee trees was established in the three villages.

A cocoa programme initiated by the Wafi-Golpu project also excelled during the year. The Wafi-Golpu project now works with more than 1 000 cocoa-growing families. According to data from the Papua New Guinea Cocoa Board, the current area under production is over 600 hectares and supplies an estimated 300 tonnes per year, earning the farmers an estimated PGK2.1 million (R9 million; US$625 000) a year.

These cocoa and coffee projects have received many accolades, attesting to the success and long-term sustainability of these pilot initiatives. Farmer Chepan Yaling, from one of the Wafi-Golpu supported cooperative farmers groups of the Lower Watut, won gold for his cocoa at the latest provincial Cocoa Show of Excellence which showcases farmers' produce from across Papua New Guinea.

Partnering for development in Papua New Guinea

At a business breakfast hosted by the Lae Chamber of Commerce on 28 August 2019, Harmony provided a wide-ranging overview of its activities in Papua New Guinea.

Harmony affirmed ongoing commitment to mining in Papua New Guinea, highlighting achievements since its entry into the country almost 16 years ago, including permitting, construction and operation of the Hidden Valley mine and advancement of the Wafi-Golpu project from exploration to current permitting phase.

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Harmony emphasised the importance of safety at its operations and noted that the Hidden Valley mine currently operates at an industry-leading total recordable injury frequency rate of 0.69 per million hours worked.

As an established partner in the development of Papua New Guinea, Harmony estimates that it has contributed approximately PGK2.9 billion (R11 billion; US$1.1 billion) to the Morobe Province through its investments in the Hidden Valley mine, Wafi-Golpu project and exploration within the province over the past 10 years.

Harmony is also a significant contributor to the Morobe Kundu Vision 2048, a vision and plan to make the Morobe province prosperous, healthy, educated and self-sufficient by 2048. We contribute financially and through our tangible contributions to the community. With an anticipated 28-year operational mine life, the Wafi-Golpu project will contribute towards the achievement of the goals of the Kundu Vision well into the future.

The Hidden Valley mine alone has directly and indirectly contributed over PGK5 billion (R19 billion; US$1.9 billion) to the regional and national economy over the past 10 years, including PGK489 million (R1.9 billion; US$185 million) in royalties and direct paid taxes. The mine has created around 2 000 jobs, with 72% of the workforce based in Morobe Province. To date, around PGK1.1 billion (R4.0 billion; US$380 million) have been paid in salaries and wages over the mine's operating life. Hidden Valley's contribution includes various socio-economic development projects and programmes. Currently, over 100 local farmers are being trained in coffee husbandry and farm management, and three coffee nurseries have been established. The first harvest was taken to market in July 2019. See Socio-economic projects for more information.

The development of the Wafi-Golpu project is a key future economic driver for the Morobe Province and Papua New Guinea. As an active explorer in the Morobe Province since 2004, Harmony has invested approximately PGK1 billion (R4.1 billion; US$0.5 billion) in exploration and studies over time.

Preferential procurement

In pursuit of Harmony's commitment to increase its procurement spend in host communities, our board approved the preferential procurement and enterprise and supplier development strategy in FY19. This strategy is underpinned by three focal areas aimed at promoting spend with enterprises owned by previously disadvantaged individuals, particularly enterprises within Harmony's host communities.

The preferential procurement strategy focuses on these three focal areas:

- supporting existing non-compliant suppliers (those who do not comply with the minimum black economic empowerment ownership targets set out in Mining Charter III) to comply and transform, or moving procurement spend to compliant suppliers
- enhancing Harmony's current supply-chain model and ensuring that preferential procurement is embedded within the sourcing process
- creating a pipeline of small and medium enterprises to participate in the supply chain

South Africa

During the course of FY19, the new Mining Charter (Mining Charter III), came into effect. The combined procurement and enterprise development section of the new charter accounts for 40 points out of 100 for the entire charter. The aim is to strengthen participation by designated groups in both procurement and business development opportunities.

For consistency with our FY18 reporting and to ensure alignment and understanding of compliance measured, in this report we have applied the Mining Charter II reporting guidelines, targets and principles. This will ensure comparability for the full reporting period. Harmony will start reporting on Mining Charter III in the next financial year (FY20).

Given the above, procurement expenditure with black economic empowered entities measured against Mining Charter II (that is entities with black ownership of more than 25%) for FY19 is R6.34 billion against total discretionary spend of R8.47 billion, or 75% of total discretionary spend.

Expenditure with black economic empowerment (BEE) compliant companies measured against Mining Charter II definitions FY19

		FY19				
Category	**Mining Charter II targets (%)**	**Discretionary spend (Rm)**	**BEE-compliant spend (Rm)**	**BEE spend as a proportion of total spend (%)**		
				FY19	FY18	FY17
Capital goods	40	1 366	1 068	78	75	78
Services	70	3 658	2 683	73	79	80
Consumables	50	3 443	2 588	75	82	78
Total		**8 467**	**6 340**	**75**		

Although Harmony was able to significantly increase year-on-year spend with black economic empowered entities, the decline in trends was mainly influenced by the Moab Khotsong acquisition which resulted in reduced black economic empowerment-compliance levels.

Papua New Guinea

As agreed with government authorities (local, regional and national), landowners and communities, we contract local companies wherever possible. Supply expenditure by Harmony in FY19 amounted to R3.59 billion or US$268 million (FY18: R2.98 billion or US$233 million) of which R2.20 billion or US$164 million (FY18: R1.6 billion or US$126 million) was spent within Papua New Guinea. Of this amount, R1.1 billion or US$82 million (FY18: R1.1 billion or US$85 million) was spent in Morobe Province. Harmony awarded contracts to local landowner companies for catering, fuel haulage, general freight, plant hire, security, labour hire, cleaning, and rehabilitation and bus services.

Enterprise and supplier development

South Africa

Harmony's approach to enterprise and supplier development ensures that local black-owned small businesses benefit from the company's presence in their communities by facilitating various processes to support new local black-owned small business entrants.

Harmony has developed a new enterprise and supplier development framework with a focus on creating sustainable businesses in host communities and shifting procurement spend to compliant suppliers who meet the minimum black economic empowerment ownership targets set out in the Mining Charter III.

Harmony spent R2.6 billion in FY19 on companies classified as small business, which is 30% of total procurement spend in South Africa. Of this amount, R1.9 billion was spent with black economic empowered companies as measured against Mining Charter II definitions. Small businesses include exempted micro enterprises with a maximum annual turnover of R10 million and qualified small enterprises with an annual turnover of over R10 million but less than R50 million.

Enterprise and supplier development centres

Harmony's enterprise and supplier development centres are strategically located in host communities, making it easier for small businesses and new entrants to access support without incurring exorbitant costs. In FY19, these centres managed contracts of over R42 million with 100% black-owned companies. Harmony aims to attract and sustain participation by more businesses based in our host communities.

Harmony has three centres, one each in Welkom, Soweto and Matlosana. The table below indicates the impact of these centres.

For further information on the work being done to promote enterprise development and local procurement, see the procurement video and related brochure.

Supplier development centres

Centre	Value of procurement contracts*	Value of loans approved supporting small business*	Number of SMEs supported
Welkom	R22 million	R3 million	56
Soweto	R20 million	R3 million	79
Matlosana	R1 million	R3 million	35

** Rounded to the nearest million*

Leano funding initiative

Beyond the enterprise and supplier development centres , Harmony has introduced the Leano funding initiative which is an extension of these centres to identify and support entrepreneurs in host communities who require financial and technical start-up assistance. This is a focused initiative to develop SMMEs within our mining communities. Harmony provides financial and non-financial support to these enterprises, irrespective of whether they enter our supply chain or other supply chains

In FY19, the fund approved 96 loans (35 for women and 17 for youth) to the value of R17 million.

During FY19, Harmony hosted six supplier days, the first two at Merafong Local Municipality, followed by events in the Matlosana, Masilonyana, Ratlou and Matjhabeng local municipalities. Harmony has supported many businesses that emerged from the supplier days held – these are represented in the table below:

<table>
<tr><th>Company</th><th>Impact</th></tr>
<tr><td>Senatla Trading Enterprises</td><td>Employees: 46</td></tr>
<tr><td>Ruben Thoso, owner for Senatla Trading Enterprises, a 100% black-owned business based in Welkom, Free State, is involved in the rehabilitation and filling of closed shafts as well as the installation of pump columns. The company participated in the Lejeleputswa Supplier Day when procurement opportunities and enterprise supplier development opportunities were shared.</td><td>Support provided by Harmony:
• Quality management systems
• Coaching, mentoring and access to procurement opportunities
• Total spend with Senatla Trading Enterprise for FY19 was R10 million</td></tr>
<tr><td>Lekabe Engineering Service and Project</td><td>Employees: 15</td></tr>
<tr><td>(100% black women-owned engineering company in North West Province)
The owner, a black woman, is a qualified mechanical foreman with more than 15 years' experience in the mining industry</td><td>Support provided by Harmony:
• Vendor facilitation services Vendor facilitation process
• Quality management systems
• Total spend with Lekabe Engineering for FY19 was R320 000
• Company currently working on a R2 million engineering project at the Doornkop mine</td></tr>
<tr><td>Lesole Agencies</td><td>Employees: 60, from host communities</td></tr>
<tr><td>Meshack Lesole, owner of Lesole Agencies, a 100% black-owned company based in Welkom, Free State, started by providing basic construction services to Harmony before his business expanded into land rehabilitation and plant hire.</td><td>Support provided by Harmony:
• Vendor funding
• Preferential payment terms and technical compliance
• Total spend with Lesole Agencies in FY19 was R15 million</td></tr>
<tr><td>Divine Automation Solutions</td><td>Employees: 3</td></tr>
<tr><td>Ramano Gerhard, owner of Divine Automation Solutions, a 100% black-owned company was discovered at a supplier day. The company, a new entrant in the technical services industry, provides technical services for valve and actuator maintenance as well as fault finding, support and training for shaft and plant operators on preventive maintenance.</td><td>Support provided by Harmony:
• Vendor financing
• Preferential payment terms and technical compliance
• Quality management systems
• Spend of R1 million with company in FY19</td></tr>
</table>

Supporting compliant businesses within host communities

Encouraging participation by host communities in procurement opportunities

In endeavouring to connect more with businesses in host communities, supplier engagement days are held. They are structured as engagement sessions aimed solely at registered businesses in Harmony's host communities and the sharing of procurement and development opportunities. Harmony shares our procurement calendar with these registered businesses, including information on upcoming procurement opportunities and on contracts that will be renewable within 12 months. These sessions also assist small, medium and micro enterprises in host communities to prepare their bid proposal packs for upcoming opportunities.

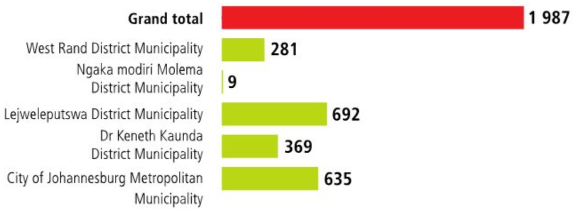
Supplier days were held in these district municipalities during FY19

Supplier days	West Rand and City of Johannesburg	Ngaka Modiri Molema	Lejweleputswa	Dr Kenneth Kaunda
No. of participating SMMEs	110	16	51	98
No. of supplier day sessions held	2	1	2	1
No. of businesses awarded procurement opportunities	*171	7	*118	63

** Higher uptake than participation at the event, due to referrals and post event on-boarding and engagements*

Harmony continues to pursue spend in host communities

Beyond these supplier days, Harmony continued to host one-on-one engagements with local businesses, at which they were coached and developed while preparing them for procurement opportunities. In all five of our host communities, Harmony spent about R1.99 billion with compliant black economic empowerment companies in FY19 – see graph.



Corporate social investment

Our corporate social responsibility policy recognises the need for socio-economic investment in South Africa and Papua New Guinea, starting with our host communities and labour-sending areas. This is in addition to our spend on local economic development. Harmony's corporate social investment programme focuses on:

- education
- socio-economic advancement projects
- health
- arts, culture sports and recreation

In selecting projects and compiling our corporate social investment strategy, we conduct research, consult with communities to understand their needs and requirements, and engage with various municipal structures.

In FY19, Harmony spent:

- R7 million or US$0.5 million (FY18: R15 million or US$0.8 million) on corporate social responsibility projects in South Africa

Further, Harmony made contributions to worthy causes in support of social upliftment in our neighbouring countries. These included sponsorship of the Mandela 100 Global Citizen Festival, in support of the United Nations' sustainable development goals (R15 million), as well as Cyclone Idai relief donations to the governments of Mozambique and Zimbabwe (R5 million each).

In addition to the following information, further details on projects in South Africa and Papua New Guinea is provided in Socio-economic projects, a separate document available on our reports website, *www.har.co.za*.

South Africa

Selected corporate social investment initiatives are:

- **Back-to-school programme (education)**
  - Beneficiaries: 100 learners in five primary schools located close to our Doornkop mine
  - Donation of school shoes and bag packs
- **Doornkop schools league (sports and recreation)**
  - Beneficiaries: 10 primary schools from Soweto, near the Doornkop mine
  - Number of teams: 30
  - Sporting codes: netball, boys and girls soccer

Public safety

There were no major incidents nor were any serious concerns raised during the year in relation to road transport and radiation exposure, which together with dust, are the primary public and community safety risks associated with our operations.

All Free State operations including Margaret Shaft have completed and submitted assessments in FY19. No significant incidents were reported.

OUTLOOK

To assist and engage with communities in and around our operations which are facing closure. We have put in place closure plans encompassing both the environmental and socio-economic impacts of closure that have detailed steps to mitigate the effects of closure and to ensure that, post-mining, communities will remain economically viable in the longer term.

In addition, we will continue to focus on the 2030 targets outlined in the SDGs and monitor our progress in contributing to them.

In Papua New Guinea, planned socio-economic projects will include health facility upgrades, infrastructure development (rural roads, electrification and water and sanitation), education, and security and safety.

ENVIRONMENTAL MANAGEMENT AND STEWARDSHIP

Mining involves the exploitation of a natural resource and its extraction from the earth, that by its very nature directly impacts the natural environment – land, water and air. At Harmony, we mine responsibly

Prepared in accordance with the GRI standards:
301-1, 301-2, 301-3, 302-1, 302-2, 302-3, 302-4, 302-5, 303-1, 303-2, 303-3, 304-1, 304-2, 304-3, 304-4, 305-1, 305-2, 305-3, 305-4, 305-5, 305-7, 306-1, 306-2, 306-3, 306-4, 306-5, 307-1, 308-1, 308-2, MM1, MM2 AND MM3

HIGHLIGHTS

Group

- Continued investment in environmental management in FY19: R199 million (US$13.9 million)
- All long-life assets are ISO-14001 certified
- All plants, except Kalgold, Saaiplaas and Hidden Valley, are certified compliant with the Cyanide Code

South Africa

- Three water retreatment plants installed contributed to:
  - Reduced dependency on potable water supply
  - Promoted water security
  - Contributed to annual savings of R5.6 million
- Estimated cost of phase 1 of the carbon tax is R1.6 million and for phase 2 between R100 million and R500 million
- Energy efficiency programme delivered savings of 233 994MWh with 53 304 MWh in savings from newly implemented projects
- Accelerated rehabilitation programme has resulted in the rehabilitation and backfilling of 45 shafts to date
- Linkages effected with artisanal and small miners to support the mining of gold and aggregate

Papua New Guinea

- Hidden Valley's mine closure plan submitted to the Papua New Guinea Conservation and Environment Protection Authority
- 25% reduction in diesel-generated power supply at Hidden Valley due to improved supply from the national hydro-power grid
- Project execution focused on performance and risk management of tailings storage facility to adhere to regulatory conditions of approval and enhance existing emergency response strategies

OUR APPROACH TO ENVIRONMENTAL MANAGEMENT AND STEWARDSHIP

We recognise that our activities have an inherent impact on surrounding communities and the natural environment, and that it is our responsibility to avoid, mitigate and manage such impacts. An additional benefit is reduced operating costs and exposure to risk while helping to leave a lasting, positive legacy post mining. Excellence in environmental performance is essential to our business success.

In line with Harmony's systems approach to environmental management, our long-life assets, those with a remaining life of mine of more than five years, have been certified ISO 14001-compliant. The most recent were Moab Khotsong and Joel, which were certified in FY19. In terms of ISO 14001, operations are audited annually. No material non-compliances were identified in the past year.

Operations with ISO certification:

- Doornkop complex
- Kusasalethu complex
- Target complex
- Tshepong Operations
- Masimong
- Harmony One Plant
- Moab Khotsong complex
- Joel complex

GOVERNANCE

At board level, our social and ethics committee oversees implementation of Harmony's environmental strategy and performance. Our environmental strategy is aligned with a board-approved environmental policy* that outlines our commitment to responsible environmental stewardship and sustainable mining as well as closure. This strategy is in turn supported by an energy efficiency and climate change policy, a biodiversity and rehabilitation position statement and a water management strategy. The executive: sustainable development motivates environmental improvement strategically at group level.

Each operation's environmental management programme includes closure commitments to expedite beneficial post-mining land use and promote sustainable community livelihoods. In accordance with its environmental permit for the operation, Hidden Valley submitted its mine closure plan to the regulator during FY19, to initiate State approval of the closure process.

Consistent with the South African operations, Hidden Valley's environmental management is aligned with the ISO 14001 standard and all new employees receive environmental awareness training, which is reinforced by leadership training courses and monthly initiatives.

Our principal environmental issues are:

- Land stewardship – minimising our environmental footprint and conserving biodiversity
- Reducing energy consumption and greenhouse gas emissions, enhancing efficiencies and limiting impact on climate
- Water conservation and optimising water consumption at our South African operations
- Air quality and dust management
- Waste management, especially mineral waste (tailings and waste rock) and related management of tailings dams
- Regulatory compliance
- Regulatory uncertainty

** See www.harmony.co.za/sustainability/governance#policies*

Changing legislative framework creating uncertainty

South Africa:

In South Africa, mining is primarily regulated by the Mineral and Petroleum Resources Development Act, with other key legislation being the National Environmental Management Act and the National Water Act. Recent legislative changes in South Africa have included the introduction of a carbon tax, implementation of mandatory greenhouse reporting and more recently the climate change bill to promote a low-carbon economy. The environmental financial provision regulations and the various drafts since 2015, for which no conclusive draft was published, also created uncertainty. This has to some extent been mitigated by the Department of Environment, Forestry and Fisheries which has communicated its intention to delay their implementation from February 2020 to February 2021 to allow for more consultation. For further information, refer to the 20F which is available at www.harmony.co.za.

Papua New Guinea:

Water extraction and waste discharge by mining projects are regulated in accordance with the Environment Act 2000 administered by the Papua New Guinea Conservation and Environment Protection Authority.

Extensive legislative review continues and a number of policy changes are currently under consideration. Of particular relevance to Harmony in Papua New Guinea is the revised mine closure policy, which includes provision for financial assurance, as security for mine closure costs, and the introduction of a biodiversity offset policy. The proposed Papua New Guinea Biodiversity Offsets Framework was released for industry review during FY19. Harmony continues to engage with the government of Papua New Guinea through the offices of the Chamber of Mines and Petroleum, the Minister for Environment and senior members of the Conservation and Environment Protection Authority.

WHAT WE DID IN FY19

We spent a total of R199 million (US$14.0 million) (FY18: R181 million or US$14.2 million) on our group environmental portfolio in FY19.

Annual expenditure on our environmental portfolio

	FY19		FY18	
	Rand millions	**US$ millions**	**Rands millions**	**US$ millions**
South Africa				
Implementation of environmental control	**90**	**6.3**	71	5.6
Mine rehabilitation projects	**79**	**5.6**	86	6.7
Papua New Guinea				
Implementation of environmental control	**30**	**2.1**	24	1.9
Harmony – Total	**199**	**14.0**	181	14.2

Environmental incidents

We monitor, report and remediate environmental incidents, including direct or indirect discharges of water beyond our mining area in terms of environmental management plans. Environmental incidents are classified on a scale from 1 to 5. We report significant incidents at level 3 and above (serious medium-term environmental effects to significant impacts on sensitive species, habitats or ecosystems).

In FY19, we reported two significant incidents in South Africa and two in Papua New Guinea.

Location	FY 19	Description	Mitigating action
Kalgold plant	Q1	A dust fallout resulted in relevant dust thresholds being exceeded. There was an incidence of fallout dust readings exceeding the relevant threshold. This was fugitive dust from a tailings dam.	Dust allaying interventions and vegetation on the benches of the tailings facility
Hidden Valley	Q1	Non-compliance with the environmental permit was recorded at the Nauti Compliance point. The presence of Weak Acid Dissociable Cyanide arose from under-dosing of reagents at the water treatment plant. From the monitoring results, this did not significantly impact the environment. Non-compliance remained below the human health criteria of 0.07mg/l for drinking water.	Remedial measures implemented included a review of processing procedures to safeguard against a repeat incident
Hidden Valley	Q2	A further breach of the environmental permit criteria for Weak Acid Dissociable Cyanide was recorded at the Nauti compliance point. The cause was identified as the pipeline configuration not being returned to the tailings storage facility. No significant impact to the environment was recorded and the non-compliance remained below human health (drinking water) criteria.	Further remedial measures were implemented to improve operational control. These focused on reconfigurations to the pipeline network, improved in-line and real-time monitoring capability, revisions to administrative controls such as trigger, action and response plans, and improved analytical reporting and accuracy of sample data.
Saaiplaas plant (Phoenix operation)	Q4	Spillage from a slurry pipeline resulted in reclaimed tailings leaking onto the adjacent property. This was a very localised spillage onto impacted land.	The leakage was repaired immediately together with a clean-up of the tailings slurry spillage. This is supported by a pipeline replacement programme currently underway. The impact was minimal due to the rapid response and communication with the farmer affected

Setting environmental targets

In FY13, Harmony sought to measure relevant key performance indicators against environmental targets to monitor performance and inform decision making. An initial five-year target period was set, from FY13 to FY17. Revised targets were set for FY18 to FY22. In March 2018, Harmony acquired Moab Khotsong and its inclusion has resulted in noticeable increases in key performance indicators measured against many of our environmental targets. As a result, Harmony has revised the FY17 baseline data by including a full year's set of data from Moab Khotsong for FY19. Notwithstanding the change in baseline, Harmony is still aiming to deliver against its five-year targets.

Group environmental targets

		Current targets				Previous targets		
		Group aggregate targets				Performance against previous group aggregate targets: FY13-FY17		
	5-year target: FY18 – FY22 (%)	FY19 Target (%)	FY19 Actual (%)	FY19 Achieved	10-year target: FY18 – FY27 (%)	Target (%)	Actual (%)	Achieved
Energy								
Reduce absolute electricity consumption (MW)	5	**1**	**2**	✓	7	3	17	✓
Electricity intensity (kWh/tonne milled)	5	**1**	**16**	✓	7	2	4	✓
Total carbon emission intensity reduction (tCO_2/tonne milled)	5	**1**	**16**	✓	5	2	4	✓
Renewable energy (% of total electricity consumed)	10	**2**	**4**		30% of energy mix	No target		
Diesel intensity (kL/tonne milled)	2	**0.4**	**1**	✓		No target		
Petrol intensity (kL/tonne milled)	2	**0.4**	**10**	✓		No target		
Water								
Reduce water used for primary activities (kL)	7	**1.4**	**7.5**	✓		4.5	11	✓
Water intensity (kL/tonne milled)	7	**1.4**	**21**	✓		4.5	19	✓
Water recycling (%)	6	**1.2**	**68**	✓	80% recycled and zero discharge	5	89	✓
Waste								
Hydrocarbon* recycling (% reduction)	80	**60**	**31**	✗		No target		
Non-hazardous** recycling (% reduction)	80	**60**	**100**	✓	Zero to landfill	No target		
Land, biodiversity								
Reduce the land impacted footprint (available for rehabilitation)	3	**0.6**	**<1**	✗		2	2	✓
Environmental fines	0	**0**	**0**	✓		0	1	✗
Implement biodiversity action plans	100	**60**	**50**	✗	One offset project per region where there is a residual impact	80	50	✗

* *Hydraulic oil and lubricants*

** *Timber, steel and plastic*

KEY

✓ **Met or exceeded target**

✗ **Target not met**

Rehabilitation and land management

South Africa

Rehabilitation ahead of closure is included in planning throughout the life of mine. In South Africa, the necessary rehabilitation funding mechanisms are in place and, where feasible, infrastructure is refurbished for alternative use. As only a small proportion of the land covered by our mining rights has been disturbed by mining, opportunities for progressive and concurrent rehabilitation are limited at this stage.

Our focus over the past two years has been on rehabilitating decommissioned shafts linked to ingress by illegal miners. Tailings dam rehabilitation, also a priority, is underway at Kalgold and planned for Welkom and Virginia for FY20. Reclamation of waste rock dumps is progressing well at Kalgold, Kusasalethu, Target, Tshepong Operations, ARM 7 and Saaiplaas 3.

Our rehabilitation strategy aims to reduce our environmental footprint through concurrent and final rehabilitation, thereby reducing our environmental liability, mitigating the risk of illegal mining and meeting the commitments made in our environmental management programme (EMP). This has helped to ensure the safety and security of our employees and communities, and has continued to ensure consistent employment and opportunity for approximately 150 persons from the local community.

Since formal rehabilitation began in 2011, we have demolished 45 shafts and rehabilitated some old plant footprints. In order to effect linkages in the host community, we ensure that the rehabilitation operations have been sourced from the local community and capacitated to be effective businesses in the rehabilitation space.

We have also demonstrated intent to support legitimate, licensed artisanal miners operating on surface by making available defunct footprints and spillage sites to a local entrepreneur for clean-up and gold reclamation. This initiative is in its first year of implementation and we remain supportive of artisanal small-scale miners – applying safe mining methods.

Our programme to rehabilitate decommissioned operations has continued to reduce our environmental liability and eliminate potential safety and health risks. In the past year, we continued to focus on rehabilitating shafts and plants. Apart from demolishing shafts and hostels, we are broadening our scope to include ancillary services infrastructure that was used to support historic mining operations like training centres, old offices and the like. In total, there are 14 active rehabilitation sites, all of which are scheduled to be completed in FY20.

At St Helena 10 shaft, a formal closure plan has been compiled and will be submitted to the regulator for approval, following which we will apply for a closure certificate to cede the mining right and any latent liabilities to the state. There is a similar process underway at Kusasalethu where a final closure plan is being compiled detailing our planned closure methodology to be submitted for approval by the regulator.

Demolition and rehabilitation FY19	
Demolition	Merriespruit 1 shaft Harmony 2 shaft training centre Harmony 4 Hostel Brand 5 shaft Eland Hostel Brand 3 waste rock profiling Freddie main offices ARM 4 and 6 headgear Freddie 9 shaft
Rehabilitation	Kalgold tailings facility Free State re-established vegetation
Reclamation and repurposing	Artisanal small-scale mining

Land rehabilitation liabilities (Rm)

	FY19	FY18	FY17	FY16	FY15
South Africa	**2 884**	2 919	2 180	2 170	2 210
Papua New Guinea	**1 039**	1 336	1 391	826	675
Total	**3 923**	4 255	3 571	2 933	2 796
(US$m)	**278**	308	166	150	230

(Refer to the 20-F for further detail on risks and liabilities)

Papua New Guinea

Most disturbed areas within the Hidden Valley mining lease remain active, however, progressive rehabilitation is undertaken where possible with a view to stabilising exposed areas to prevent ground movement proximal to critical infrastructure and to limit off-site sediment transport. In FY19, rehabilitation activities included steep slope stabilisation, erosion remediation projects and the ongoing maintenance of previously rehabilitated areas.

Five hectares of new site rehabilitation and maintenance work was undertaken on the Western Sector waste rock dump and 4 hectares of slope stabilisation works were undertaken at the Hamata pit and the southern abutment of the tailing storage facility. A major erosion remediation project was completed at Puruang Valley and a further four projects are planned for FY20.

Building on work completed in previous reporting periods, Hidden Valley submitted its mine closure plan to the regulator during FY19. This plan presents Harmony's proposed closure philosophy which is aligned with the cessation of mining in 2023. The proposed closure end land uses will be a key focus of the future stakeholder engagement programme to achieve endorsement of the current closure intent, or modification thereof. A further focus in the forthcoming year will be to create a State of Papua New Guinea working group to secure approval of the mine closure plan and document the broader closure and relinquishment strategy to be followed in the absence of a formalised closure framework. Technical work programmes to inform closure designs and refine closure liability estimates are ongoing.

Biodiversity and conservation

South Africa

Most long-life South African sites have biodiversity management plans, which are implemented either through their respective mine closure plans, environmental management plans or specific biodiversity action plans. To ensure compliance, numerous environmental projects are being implemented throughout our operations, in line with the United Nations SDGs.

Apart from Kalgold which needs to conserve the protected Camel Thorn (Acacia erioloba) tree, our operations do not operate in sensitive or protected environments. Nonetheless, we acknowledge that we do have important fauna and flora in our areas of operation and aim to protect and preserve these species where possible. Conservation and protection are chief tenets of our land management strategy.

Alien and invasive plant management: An alien invasive plant eradication project continues to minimise growth and infestation of alien species to ultimately eradicate these plants. Areas of infestation are first mapped and then divided into smaller management units to enable prioritisation and appropriate planning. To date, Harmony has cleared more than 1 300ha and has now added a further 1 088ha cleared during the past year.

Flamingo conservation programme: Studies to complete the proposed Lesser Flamingo Conservation Project in Welkom were delayed as a conservation site in Kimberley required involvement by relevant stakeholders, highlighting the increasing importance of contributing towards conservation of the bird. Project design and strategy for the construction of a Lesser Flamingo bird island will be done in collaboration with the local municipality and non-profit organisations.

Final land use: As part of its socio-economic development strategy, Harmony is targeting four applications, which have been integrated into our social and labour plan (SLP) commitments:

- Agriculture and agri-processing projects at Doornkop, Moab Khotsong and Kusasalethu
- Alternative energy projects including bio-energy and solar projects
- Conservation initiatives
- Industry applications

Over the next five years, Harmony plans to implement our biodiversity action plans and, within the next 10 years, we aspire to participate in at least one offset initiative in each of our operating regions.

Papua New Guinea

Hidden Valley is not in a biodiversity-protected area but five species on the International Union for Conservation of Nature Red Data List are found in the vicinity of the mine. These include tree kangaroos, nectar bats, harpy eagles and long-beaked echidna, which are not endemic to the Hidden Valley area. There is no evidence to suggest that the mine’s operations have affected these species.

For the Wafi-Golpu project, the Environmental Impact Statement submitted to the State of PNG during the previous reporting period presents block cave mining as the optimal mining method to target the ore body. The selection of this underground method will reduce the surface footprint of the project, in comparison with open-pit mining and large-scale sub-level cave underground mining, and significantly reduce the amount of waste rock generated by the project.

A further key measure to manage the impacts of the proposed Wafi-Golpu project has been the selection of deep-sea tailings placement as the preferred tailings management method. This decision is based on numerous baseline oceanographic studies as well as trade-off studies assessing deep-sea tailings placement compared to terrestrial tailings disposal alternatives.

Extensive stakeholder engagement was undertaken in relation to the Wafi-Golpu project during FY19 in support of the assessment of the Environmental Impact Statement. This included roadshow consultations led by the regulator and meetings with mine area, infrastructure corridor and coastal area communities on the project, its predicted impacts and the results of ongoing investigations and technical assessments. A number of these engagements have included representatives from national and provincial government entities.

During FY19, the Papua New Guinea Conservation and Environment Protection Authority engaged three independent peer reviewers to assess the Wafi-Golpu project's Environmental Impact Statement. Permitting progress is presently on hold following an application for judicial review of the project's Memorandum of Understanding by the Morobe Governor. A stay order was issued by the National Court preventing advancement of permitting activities until the judicial review is completed.

Energy management – optimising use and reducing carbon emissions

Our extractive processes are energy intensive with the cost of electricity contributing close to 15.8% of operating costs at our South Africa operations. Consequently, our energy and climate change policy is underpinned by economic and ecological imperatives.

Our focus is on managing energy efficiencies and reducing carbon intensities through the life cycle of our operations. We are also looking to diversify our energy mix, moving toward the increased use of renewable energy where appropriate. It is our aspiration to replace 30% of the carbon-based electricity consumed in South Africa with renewable energy within the next three years. Refer to our CDP Climate Change report submitted in July 2019 for further disclosure.

Harmony endeavours tirelessly to reduce energy consumption and greenhouse gas emissions, adapt to climate change and diversify our energy mix by:

- promoting energy efficiency at our deep-level mines in South Africa
- optimising and rebalancing our asset portfolio
- promoting an alternative energy mix
- aligning our rehabilitation programme with the green energy agenda

The decrease in energy use in FY19 is attributed to numerous energy-saving initiatives. See Operational excellence programme as well as CDP Climate Change for further information.

Our energy consumption has declined by 3.4% over the past five years (excluding Moab Khotsong operations) and our intensity use by 13%, which is in line with the annual targeted reduction. These declines have in turn contributed to reduced greenhouse gas emissions and water consumption.

South Africa

Generally, Harmony consumes energy in the form of electricity purchased from the national power utility, Eskom, which uses coal-fired power stations. There is some scope for procuring renewable energy and we are active in this space but, until the power purchase agreement is concluded, we are still dependent on Eskom's renewable sources. Eskom's electricity tariffs have risen by more than 400% since 2008 and, given the relatively significant contribution to operating costs, increases exceeding 8% have an impact on the sustainability of our operations. We are therefore intent on reducing electricity consumption.

Our energy efficiency-initiatives focus on efficient mine cooling, compressed air, water management and ventilation, as well as an improved energy mix with emphasis on sustainable renewable energy, particularly solar power and bio-energy in the short term. We have improved our capacity to generate solar power, which has helped decrease our power consumption and energy use intensity.

Energy consumption

Energy consumption (MWh)	FY19	FY18	FY17	FY16	FY15
South Africa	3 209 411	2 458 423	2 537 944	2 542 463	2 608 157
Papua New Guinea	[2] 131 266	[3] 90 298	90 380	54 976	59 218
Total	**[1] 3 340 677**	**2 548 721**	**2 628 324**	**2 597 439**	**2 667 375**
Consumption intensity (MWh/ tonne treated)	0.12	0.11	0.14	0.13	0.15

[1] *Increase in energy consumption driven by Harmony's acquisition of Moab Khotsong*

[2] *Includes Papua New Guinea diesel consumption used to produce electricity (13 900MWh)*

[3] *Although full year production included, the plant did stand for planned shutdown*

Operational excellence programme – technology and innovation

As part of Harmony's operational excellence programme, a specialist has been employed to improve overall efficiency at our operations, particularly environmental conditions underground, equipment and systems efficiency as well as service delivery. We have thus moved into the fourth industrial revolution with technologies that assist in identifying the root causes of inefficiencies and finding cost-effective solutions.

More than 200 initiatives have been implemented with cumulative cost savings, over the past five years, of R450 million. Projects implemented in FY19 enabled savings of R45 million (53 304MWh) as well as significant reductions in indirect greenhouse gas emissions and water consumption. Other positive impacts include improvements to the consumption of water and compressed air, as well as ventilation, underground.

Implemented technologies:

- Intelligent real-time energy management systems automatically control compressed air, water reticulation, ventilation and ore transportation to reduce energy consumption and enhance safety.
- A data management system facilitates capturing, centralisation, validation, management and reporting of environmental and operational information. As a management toolbox, it improves access to environmental data and enables effective environmental management, including monitoring of water consumption and carbon dioxide emissions as well as performance against targets. Storage of environmental data in a central electronic repository, with supporting documentation, helps expedite data validation, reinforces accurate decision-making and improves environmental management. By automatically comparing data with the source documents, annual internal audits and travel to mine sites have become redundant as auditors can log in externally. Developed and implemented by independent environmental efficiency specialists, Harmony began using this system in June 2019.
- Condition monitoring of infrastructure and systems automatically analyses millions of data points daily to predict failures and identify inefficiencies. When problems are detected, a report is generated automatically and sent to relevant managers.
- Digital twinning and simulation technologies have been identified for strategic future mining. A digital twin is a computer-generated model of a mine that enables monitoring of the entire operation in real time. Integrating simulation capabilities into the digital twin assists with identifying the causes of inefficiencies. The simulations are also used for "what if" analyses and to predict constraints.

In addition, Harmony uses Pelton turbines that convert the energy generated by water sent underground into electricity. Tshepong Operations and Moab Khotsong are also two of a few mines in the world that use three-chamber pipe feeder systems (3CPFS) technology to extract water from mines more cost-effectively.

Real-time maintenance of all operational excellence systems is conducted daily by dedicated personnel.

Key energy saving initiatives implemented in FY19

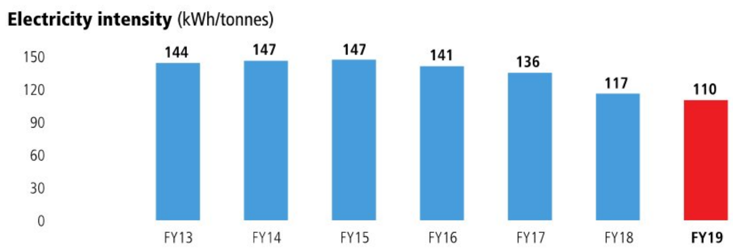
Over the past 10 years, although our mines have become deeper, energy efficiency initiatives have resulted in significant savings. In FY19, collaboration with operational excellence specialists reduced energy intensity by 5% compared to FY18 (without considering the Moab Khotsong acquisition and discontinued operations).

Energy management

Key energy saving initiatives implemented in FY19

Project description	Annual energy savings (MWh)	Annual greenhouse gas savings[1] (t CO_2)	Annual water savings[1] (ML)
Kusasalethu			
Compressed air network optimisation	12 258	11 890	15 935
Water reticulation optimisation	7 051	6 839	9 166
Unisel			
Compressed air optimisation	9 763	9 470	12 692
Ventilation and refrigeration optimisation	10 088	9 785	13 114
Moab Khotsong			
Refrigeration optimisation	4 648	4 509	6 042
Tshepong Operations **Tshepong section**			
Refrigeration optimisation	6 720	6 518	8 736
Compressed air network optimisation	4 990	4 840	6 487
Phakisa section and Nyala			
Compressed air network reconfiguration	6 183	5 998	8 038
Masimong			
Water reticulation optimisation	4 773	4 630	6 205
Doornkop			
Compressed air supply optimisation	4 881	4 735	6 345

[1] Indirect CO_2e and water savings (Eskom)



Papua New Guinea

Our operations are designed to be energy efficient. As Papua New Guinea's grid power is generated in part by renewable hydro-power emission intensities are much lower at Hidden Valley. Although Hidden Valley has historically experienced interruptions in its supply of grid power, but the reliability of supply has significantly improved over the past 12 months. This is reflected in the large decrease in diesel-generated electricity consumed during FY19.

The proportion of grid power used in FY19 was a record high of 89% (FY18: 66%). In FY19, 13 900MWh of diesel-generated electricity was consumed (FY18: 30 900MWh) representing a 55% reduction on the previous period's consumption. The increase in total energy consumption recorded for FY19 reflects the increased throughput and gold production at Hidden Valley during the year.

To ensure a stable, baseload power supply, the Wafi-Golpu project is planning to use self-generated power using intermediate fuel oil. Alternative options including renewables continue to be assessed.

Direct and indirect energy consumption (MWh)

	FY19	% of total energy used	FY18	% of total energy used	FY17	% of total energy used	FY16	% of total energy used	FY15	% of total energy used
South Africa										
Direct [1]	**–**	–	–	–	–	–	–	–	–	–
Indirect [2]	**3 209 410**	**100**	2 458 423	100	2 537 944	100	2 542 463	100	2 608 157	100
Total	**3 209 410**	**100**	**2 458 423**	**100**	**2 537 944**	**100**	**2 542 463**	**100**	**2 608 157**	**100**
Papua New Guinea										
Direct [1]	**13 927**	**10.6**	30 931	34	38 839	41.9	14 010	25.5	10 355	17
Indirect [3]	**117 338**	**89.4**	59 367	66	52 542	58.1	40 966	74.5	48 863	83
Total	**131 265**	**100.0**	**90 298**	**100**	**91 381**	**100**	**54 976**	**100**	**59 218**	**100**
Harmony										
Direct	**13 927**	**0.4**	30 931	0.1	38 839	0.1	14 010	0.5	10 355	0.4
Indirect	**3 326 748**	**99.6**	2 517 790	99.9	2 590 482	99.9	2 583 429	99.5	2 657 020	99.6
Total	**3 340 675**	**100.0**	**2 548 721**	**100**	**2 629 321**	**100**	**2 597 439**	**100**	**2 667 375**	**100**

[1] *Diesel*

[2] *Non-renewable: coal-fired power stations (Eskom)*

[3] *Renewable energy: hydropower-generated electricity*

Addressing climate change by optimising our energy use

Harmony has disclosed its carbon-related impact through the CDP for several years, most recently for 2019. Internalising carbon pricing into our strategic and operational plans has been entrenched in the way we do business, especially with the advent of the carbon tax in South Africa. The carbon tax has been built into our financial models which are used for impairment testing, impacting the recoverable amount. This aligns with the principles of CDP and the Task Force for Climate-related Financial Disclosure (TCFD) requirements.

CDP and the Task Force for Climate-related Financial Disclosure

Harmony has for several years, including 2019, been disclosing its carbon-related impact and performance through its CDP Climate Change submission. Going forward, Harmony will be aligning its annual carbon-related reporting with best practice for global climate reporting and we will be structuring our annual reporting in accordance with the requirements and guidelines of the Task Force for Climate related Financial Disclosure (TCFD). We will be focusing on four key areas – governance, strategy, risk management and metrics and targets – as defined by the Task Force for this year's report as we begin integrating the its requirements with our existing reporting structures.

Harmony monitors the opportunities and risks presented by climate change. These are included in our life of mine plans and mine closure plans and communicated to the board throughout the year. Our climate strategy is then reviewed annually with a view to substituting and/or augmenting conventional electricity use (fossil fuel and grid energy) with renewable energy.

In line with our strategy for the next five years to adapt, conserve and move towards an alternative energy supply mix, we are reducing our grid-electricity consumption and greenhouse gas emissions with year-on-year and multi-year targets. To this end, we have implemented a suite of energy-efficiency initiatives and closed carbon-intensive (high-energy) shafts. We plan to increase the use of green energy derived from hydropower, solar power and biomass.

To mitigate the risk of climate change, we have:

- rebalanced our asset portfolio by closing several carbon-intensive operations as they have reached the end of their geological life
- decommissioned and sealed old mining shafts
- received environmental authorisations for three solar projects with final procurement processes currently being concluded

Energy management

- Harmony is currently considering several renewable and alternative energy projects in South Africa:
- bio-energy project
- three 10MW photovoltaic power plants in the Free State on Harmony-owned land
- initiatives to reduce electricity consumption – these have reduced energy consumption across the group by 21% since 2010 (excluding Moab Khotsong).

The cost savings in actual electricity consumed were R29.7 million (excluding Moab) year-on-year. Despite our electricity consumption increasing as a result of Moab's acquisition, Harmony has measured total cost savings resulting from the energy savings initiatives implemented amounting to R44.2 million and R69.5 million valued added for maintaining the existing energy savings initiatives in FY19. Some of the savings were neutralised due to an increase in energy consumption for operational requirements.

Demand-side management is encouraged by Eskom with rewards for making more efficient use of tariffs. Initiatives to this end include scheduling of pumping, air compression, cooling, hoisting and ventilation at off-peak periods.

Projects funded by Harmony are sustainable in the long term, and include the use of energy-efficient underground fans, managing the compressed air at refuge chambers and workplaces, installation of standalone compressors, accurate measurement of compressed air and online electricity consumption monitoring.

Group carbon emissions

	FY19	FY18	FY17	FY16	FY15
Scope 1 emissions breakdown by source (CO_2e tonnes)					
Diesel	**129 675**	128 505	108 306	53 278	64 244
Explosives	**2 294**	2 135	1 953	1 838	1 748
Petrol	**1 143**	844	784	777	909
Total	**133 112**	**131 484**	**111 043**	**55 893**	**66 901**
Scope 1 emissions breakdown by source (%)					
Diesel	**97.4**	97.7	97.5	95.3	96
Explosives	**1.7**	1.6	1.8	3.3	3
Petrol	**0.9**	0.7	0.7	1.4	1
Total	**100**	**100**	**100**	**100**	**100**
Total scope 1, 2 and 3 emissions (CO_2e tonnes)					
Scope 1	**133 112**	131 484	111 043	55 893	66 901
Scope 2	***3 192 750**	2 442 256	2 512 565	2 580 600	2 686 401
Scope 3	**532 704**	439 551	445 033	615 456	686 233
Total	**3 858 566**	3 013 291	**3 068 641**	**3 251 949**	**3 439 535**
Total scope 1, 2 and 3 emissions (%)					
Scope 1	**3**	4	4	2	2
Scope 2	***83**	81	82	79	78
Scope 3	**14**	15	14	19	20
Total	**100**	**100**	**100**	**100**	**100**

Carbon emissions intensity

	F Y19	FY18	FY17	FY16	FY15
Scope 1 emissions intensity by source (CO_2e tonnes/tonne treated)					
Diesel	**0.0050**	0.0057	0.0055	0.0029	0.0036
Explosives	**0.0001**	0.0001	0.0001	0.0001	0.0001
Petrol	**0.00004**	0.00004	0.0004	0.0001	0.0001
Total scope 1, 2 and 3 emissions intensity (CO_2e tonnes/tonne treated)					
Scope 1	**0.0051**	0.0061	0.0057	0.0031	0.0040
Scope 2	***0.1229**	0.1090	0.1295	0.1428	0.1490
Scope 3	**0.0205**	0.0196	0.0229	0.0340	0.0380
Total	**0.1485**	**0.1347**	**0.1581**	**0.1799**	**0.1910**

** The inclusion of Moab Khotsong for the full year – presents opportunities for operating efficiencies*

Responsible stewardship: suppliers and market

Harmony engages regularly with key and relevant suppliers in our supply chain, who indirectly contribute to our Scope 3 greenhouse gas emissions, to ensure that they have processes in place to monitor and manage their carbon and water footprints.

Rand Refinery, which smelts, evaluates, refines and fabricates the gold we produce for investment and retail clients, is also committed to internationally accepted responsible sourcing practices in terms of the London Bullion Market Association Responsible Gold Guidance as well as the Organisation for Economic Co-operation and Development Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. The certified gold chain of custody is also audited independently in line with the requirements of independent bodies and enacted legislation.

Rand Refinery is ISO accredited in terms of 45001:2018, which replaced the OHSAS 18001:2007, ISO 9001:2015 and ISO 14001:2015 certifications.

Emissions management

Ventilation exhausts servicing our underground operations in South Africa expel air into the atmosphere. Harmony conducted a study to determine the make-up of the air, especially in relation to methane and concluded that the methane emitted occurs in trace concentrations, which is negligible.

Many of our gold plants have kilns, smelters and burners which require annual monitoring and assessment for submission to the relevant regulators. During our annual assessments, elements such sulphur dioxide and nitrous oxides are measured against an approved Air Emissions Licence. All relevant gold plants meet the regulatory requirement.

The main air quality concern remains dust fallout that impacts surrounding communities. A dust monitoring programme has been comprehensively updated for relevant operations. All historic monitoring points together with the methodology were re-evaluated and additional monitoring points have been added to the existing network for improved data collection and mitigation.

Optimising water use, limiting our impacts

Our water management policy sets the principles for water management at each of our operations in various climatic conditions. Papua New Guinea is characterised by its high rainfall tropical climate but, in contrast, Kalgold operates in a water-scarce environment. These conditions largely influence the water management strategies at each operation.

In high rainfall territories, we ensure that we hold as little water as possible so water discharge at Hidden Valley is a necessity. Surplus water is treated in the water-treatment plant to the prescribed standards before it is discharged into the Watut River system.

South Africa

At many of our underground operations in South Africa, Harmony intercepts the aquifer to generate fissure water, which we then treat and use, thus liberating other fresh water supplies for other users in our society. At these operations, we maximise the use of underground water and have begun treating this water to meet quality standards for use in our operations as we pursue our goal of zero discharge.

At Kalgold, water availability is critical to business continuity and operational growth. Given the scarcity of water, Harmony ensures that what we use does not impact upstream and downstream users. We undertake stakeholder engagement with upstream and downstream users as well as the relevant regulators as this is critical to preserving and protecting this scarce resource.

Water in South Africa is generally deemed a scarce resource and, as a country, we have adopted an inter- and a multi-disciplinary approach to the management of our water resources by means of catchment management agencies. Harmony participates in the following catchment agencies:

- Far West Rand Technical Working Group
- KOSH Mine Water Forum
- Free State Government Task Team

Doornkop agricultural project

A vegetable project, using excess potable water from the Doornkop water-treatment plant, is being established. Refer to *Socio-economic development*.

Additionally, as a result of the interconnectivity and contiguous nature of our orebodies, there are many mines operating within the same catchment area. This warrants a co-ordinated effort to manage the resource effectively. Harmony thus participates in the Far West Rand Technical Workings Group to collaborate on regional opportunities for water management and is also represented on the board of the Margaret Water Company in Orkney in partnership with Village Main Reef to manage the KOSH water basin.

In the western basin, Harmony and Sibanye-Stillwater are working collaboratively on the latter's closure programme for the Cooke shafts to ensure that the sealing programme inhibits any ingress to Doornkop operation. This ensures that we manage the impacts of our activities during the operating lives of our mines and that we are also focused on closure planning.

All our operations have site-specific water balances and water management plans in terms of which we operate, monitor and measure compliance.

For further information on water management, refer to the CDP Water report submitted in July 2019.

Water use – measured						
		FY19	**FY18**	**FY17**	**FY16**	**FY15**
Water used for primary activities	000m^3	[1] **23 158**	15 473	18 125	15 083	15 752
Potable water from external sources	000m^3	**15 933**	12 646	12 486	13 854	13 132
Non-potable water from external sources	000m^3	**7 225**	2 827	[2] 5 638	1 229	2 620
Surface water used	000m^3	**4 042**	2 034	4 863	716	776
Groundwater used	000m^3	**3 183**	793	775	513	1 844
Water recycled in process	000m^3	**48 512**	40 435	41 112	38 821	38 338
Intensity consumption	000m^3/tonne treated	**0.89**	0.69	0.93	0.80	0.87

[1] *Increase is due to the inclusion of Moab Khotsong*

[2] *Increase in non-potable water consumption due to impact of drought on the Free State operations*

In line with legislative requirements, integrated water-use licence applications were submitted to the authorities for each operation. Where water use licences have been received, Harmony has applied for amendments to take into account omissions, additional water uses required and to clarify certain aspects. Where possible, Harmony continues to apply best practice in water management.

Our strategy to reduce dependency on potable water, and to maximise our use of fissure and process water, began in 2013.

Water conservation strategy

Our geohydrological assessments together with water balances are used to model the likely effects of a protracted drought on our operations. Success in reducing our water-use intensity is partly attributed to less wastage and reduced potable water use due to recycling and treatment.

Harmony installed two water-treatment plants at our Gauteng mines to treat fissure water to potable standards. A third treatment plant has been constructed in Free State at the Nyala shaft at Tshepong Operations at a cost of R16.8 million. This has had the added advantage of liberating potable water supply for other users, especially necessary during times of El Niño.

It is imperative that we continue to improve the efficiency of our water use in order to operate effectively under regulations that aim to reduce demand and consider community access to potable water from the same source.

- **Water conservation in the Free State:** In line with our strategy, we have built a third water-treatment plant in the Free State. This will ensure security of water, reduce water consumption and assist with water conservation. The plant will treat 2.8ML of water a day and will save R3.2 million in water bills annually. The three treatment projects will bring about a total saving of R5.6 million annually
- **Kalgold:** Situated in a water scarce area, Kalgold's D-Zone pit deposition ensures water is available for production with the surrounding borehole network augmenting water needs when necessary. Modified plant and tailings storage facilities have maximised the recovery of water for reuse; process water dams have been reinforced to increase storage capacity and minimise overflows; and efficient flow meters and valves have been installed

CDP Climate Change and Water reporting

CDP, the non-profit global environmental disclosure platform, has again acknowledged Harmony as a global leader in corporate sustainability.

Harmony's scores for CDP Climate Change 2018 and CDP Water 2018 were A- and B respectively. In South Africa, no company scored an A for water.

According to the CDP, their 2018 reports, comprising reviews of more than 7 000 global companies, were produced at the request of more than 650 investor signatories managing assets worth US$87 trillion.

CDP South Africa Water 2018 states: "South Africa is facing a water crisis caused by insufficient water infrastructure maintenance and investment, recurrent droughts driven by climatic variation, inequities in access to water and sanitation, deteriorating water quality, and a lack of skilled water engineers."

CDP South Africa Climate Change 2018 notes: "Exceeding [temperature increases of] 1.5 degrees globally, could have catastrophic impacts for South Africa which is physically and economically vulnerable to climate change."

Water conservation strategies

Water is a critical resource in South Africa and for mining. Harmony's main goal is therefore to reduce its dependence on water. It has also collaborated with operational efficiency specialists to simulate water reticulation networks at the different operations using Industry 4.0 technologies. These water studies have enabled Harmony to identify operational improvements in the water network resulting in monthly process water savings of 75ML and an annual potable water cost saving of R6 million.

The collaboration has also placed significant focus on ensuring continual awareness of water usage. Internal water reporting has become a key performance metric at the operations. Daily underground water reticulation analyses are done which immediately alert relevant personnel if intervention is required. Furthermore, water management systems have also been installed to manage and reduce inefficiencies. For example, these systems have contributed to a monthly improvement in chilled water usage at the Target mine of 35ML.

Results of the various efforts to reduce Harmony's water usage can be seen in the water used for primary activity key performance indicator. For the group as a whole, our operations have reduced water used in primary activities by 7.5% over the past two years while the water intensity has improved by 21% (see table below). The intensity improvement can be attributed to the increase in tonnes treated over the entire group.

Water discharge

At Doornkop, we are licensed to discharge water but the treatment plant has mitigated the need for this. Only in the event of excess water will Harmony discharge treated potable water into the Klipspruit. In this reporting cycle there was no discharges from the operation.

The Kusasalethu operation has a water use licence permitting the discharge of water. We remain committed to optimising our water balance to achieve zero discharge. Notwithstanding this, there is discharge from Kusasalethu via the mine's golf course into the Varkenslaagtespruit We estimate this to have been around 1ML per day on average. Water quality is in line with instream water quality objectives for the Wonderfonteinspruit and upstream and downstream monitoring underscores that there is no impact to the receiving environment. However, in order to achieve our objective of zero discharge at this operation, we plan to install a treatment plant in FY20.

Margaret Water Shaft, a shaft specifically being used to pump water from underground, was transferred to Harmony (66%) and Village Main Reef (33%) upon acquiring Moab Khotsong operation. Most of the water is used by Harmony or surrounding users, however in some cases discharges are realised into the Vaal River. During 2019, the shaft had to discharge 562.4ML, averaging 1.5ML daily. The water quality is of a very high standard and meets in-stream Vaal River water quality standards.

Group key performance indicators for water

Key performance indicator	Baseline FY17[1]	FY19	Target reduction by 2022	FY19 reduction on baseline
Water used for primary activities (m^3)	25 023 208	**23 158 152**	7%	**7.5%**
Water intensity (m^3/tonne treated)	1.13	**0.89**	7%	**21%**

[1] *Adjusted for Moab Khotsong acquisition.*

Papua New Guinea

At Hidden Valley, steep topography, high rainfall and low levels of evaporation pose significant water-management challenges with the positive water balance resulting in a near-continuous discharge of water from the mine site to the environment. The main water-management techniques implemented are:

- controlled run-off of rainfall to prevent erosion and sediment entering the river system
- recycling of site water to limit the volumes of water stored on the tailings storage facility and requiring release to the environment
- treatment of wastewater prior to discharge

Point-source discharge to the receiving environment occurs to either Pihema Creek or the Upper Watut River from a cyanide detoxification plant adjacent the tailings storage facility. Compliance monitoring is undertaken at a point approximately 18km downstream of the discharge in accordance with the operation's Environment Permit. Water quality monitoring during the year showed that all dissolved metals and physicochemical parameters complied with regulatory criteria at the Nauti compliance point. Two exceedances of Weak Acid Dissociable Cyanide were recorded, as described in the earlier Environmental Incidents section.

Extensive monitoring programmes are in effect to understand the performance of the site's waste rock dumps and tailings storage facility, including assessment of sediment and run-off control measures.

Discharge of mine-related sediment into the Watut River drainage system has continually reduced over the last five-years with an ongoing focus on erosion control and sediment management.

Most of the raw water required by Hidden Valley is drawn from Pihema Creek and used in the process plant and related ore-processing activities. Process water recycling is prioritised to limit as far as practicable the volumes extracted from the surface environment.

Acid mine (metalliferous) drainage

Major sources of acid mine drainage include drainage from underground mine shafts as well as run-off and discharge from open pits and mine waste dumps, tailings and ore stockpiles. Tailings and ore stockpiles make up nearly 88% of all waste produced at our South African operations.

Our water-management strategy involves intercepting water before it is polluted underground. When there is a risk that rising water levels underground could hinder access to our ore reserves or those of other operations, or harm the environment, water is pumped to surface. It is then consumed as plant intake.

In our Free State operating area, Welkom, is a water-stressed environment and our environmental modelling confirms that there is no risk of a surface decant of acid mine drainage currently or beyond end of life. There is therefore no material risk to surface and groundwater sources in Welkom.

Geohydrological studies confirm the same outcome for Kalgold, Doornkop and Kusasalethu. That said, both Doornkop and Kusasalethu are situated in complex catchments compounded by the inter-connected nature of mining operations in the area. These operations participate in regional geohydrological and closure studies.

In Papua New Guinea, acid and metalliferous drainage may occur from landforms that contain potentially acid-forming material such as the waste rock dumps and ore stockpiles. Potential environmental impacts are mitigated by the construction of engineered waste rock dumps and the selective placement of potentially acid-forming waste rock within the dump.

A current focus of the closure work programmes is to understand the performance of the waste rock dumps at and beyond mine closure, with a view to formulating closure designs that preclude the occurrence of acid and metalliferous drainage.

Optimising our use of materials

The primary materials consumed in conducting our mining activities and processes include the rock (ore and waste) we mine together with liquefied petroleum gas, grease, cyanide, fuels and lubricating and hydraulic oils.

Materials used

	FY19	FY18	FY17	FY16	FY15
Rock mined: ore and waste (000t)	**47 095**	43 578	33 150	27 606	29 948
Ore mined (000t)	**25 980**	22 441	19 402	19 739	13 041
Waste rock recycled (000t)	**6 575**	3 690	4 668	3 964	6 647
Slimes recycled (000t)	**9 992**	9 772	6 559	6 131	5 987
Liquefied petroleum gas (t)	**1.3**	1	0.47	0.54	1.14
Grease (t)	**506**	426	121	384	54
Cyanide (000t)	**23.2**	23.3	21.0	18.0	14.3
Petrol and diesel (000L)	**48 742**	48 461	40 811	20 298	24 464
Lubricating and hydraulic oil (000L)	**3 163**	2 744	2 768	2 291	2 772

Cyanide management

Harmony is a signatory to the International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (Cyanide Code). All our major gold mining operations and most of our metallurgical plants have been certified compliant with the Cyanide Code. This excludes the Kalgold, Saaiplaas and Hidden Valley plants, which account for 21% of production, and the Joel plant, for which certification is being reassessed as the plant is being decommissioned.

Hidden Valley had an audit in FY19, the findings of which are being addressed before re-certification, which is targetted for FY20.

Managing our waste

Effective waste management is a priority as it can reduce our environmental impacts and mitigate our environmental liabilities. An understanding of the actual cost of waste management enables us to plan effectively for new projects and mine closure. Practically, we maximise recycling and waste reduction during the life of a mine, and design to minimise waste and reclaim mineral waste (such as waste rock from dumps as aggregate) to curtail our total mining environmental footprint.

Internally, guidelines on mineral, non-mineral and hazardous waste materials are included in the environmental management systems implemented at all operations. We understand that waste management begins with initial generation and encompasses handling, storage and transport as well as recycling, treatment and/or disposal.

Mineral waste

Waste rock

Our mining and extractive processes generate mineral and non-mineral waste as well as emissions. Our mineral waste is characterised as tailings and overburden, often viewed as a resource in waiting. Harmony's year-on-year increase in mineral waste is due to waste stripping of the cutbacks at Hidden Valley. Waste rock is also generated from our underground operations in South Africa. Effective mineral waste management reduces the aesthetic and land use challenges of mining, particularly during closure, as well as the potential for water and air pollution while maximising the recovery of ore, minerals and metals. Improved mineral waste management can result in significant savings and a reduction in energy consumption.

Waste rock in general has no value as gold mineral resource, but generally has characteristics that make it useful as

- plant grinding media
- feed into the backfill plants
- physical characteristics present an opportunity for the aggregate industry

As part of our commitment to inclusive mining and in accordance with our social purpose, Harmony has ringfenced some of its waste rock for local businesses and local entrepreneurs. This has enabled us to forge a supporting an enabling relationship as large-scale miner with legitimate licence artisanal operators in our host communities. Aggregate at Kalgold is currently being reclaimed and repurposed for market by a consortium comprising a seasoned aggregate producer Platistone Ltd, the local community and employees.

In Welkom, surplus waste rock is also being processed by local aggregate producers – OMV Crushers and Stone and Allied – and has been commercially sustainable for over five years. In Welkom, Harmony is working with the local community representatives of Allanridge and NCamiso – a 100% BEE entrepreneur – to establish an additional aggregate producer.

Harmony has established a five-year target to reclaim at least 10% of our total available mineral waste footprint, provided Harmony is able to access funds set aside in the environmental rehabilitation trust funds.

The situation differs in Papua New Guinea where there is limited opportunity to re-purpose waste material given the potentially acid forming nature of much of the waste. As far as practicable, suitable waste rock is reused on site in the ongoing construction of the tailings storage facility embankments.

Waste rock is often regarded as a resource to the aggregate industry. To this end, Harmony's rehabilitation efforts and downstream beneficiation efforts repurpose waste rock into aggregate at Kalgold, Welkom and Kusasalethu. Many of these initiatives are developed to support local participation to beneficiate our waste into profit streams.

Management of tailings in Papua New Guinea

Hidden Valley's advanced waste management systems have generated positive feedback from stakeholders, particularly the tailings storage facility, which is the first large facility of this type to be operated successfully in Papua New Guinea.

A magnitude 7.2 event earthquake was experienced some 55km north-north west of Hidden Valley on 7 May 2019. No significant ground movement, evidence of cracking or instabilities of concern were observed at the tailings storage facility following this earthquake event.

Approval to raise the tailings storage facility dam embankment to RL2015 was granted by the Papua New Guinea Chief Inspector of Mines on 31 January 2019, contingent on a series of conditions focused on:

- the management of safety critical risk controls
- appropriate governance and supervision
- compliance with ANCOLD 2012a
- safe and effective maintenance, construction and operation of the facility

There was thus considerable focus during FY19 on the performance and risk management of the tailings storage facility and the review, refining and upgrade of emergency response strategies. As an additional layer of corporate governance, an Independent Technical Review Board was appointed in 2018 to conduct annual reviews of the facility.

Actions during FY19 relating to tailings dam management and compliance with the conditions of approval for the facility included:

- provisions for emergency pumping capability from the facility and a revision to the trigger, action and response plan pertaining to the release of untreated water in the event of an emergency to safeguard the dam structure
- the design, installation and commissioning of an early warning siren system and two-way communications in villages downstream of the facility
- completion of tailings storage facility flood modelling under extreme scenarios to determine inundation extents in downstream communities and associated requirements for emergency preparedness and response
- extensive engagement and education programmes with downstream communities and provincial and national government representatives in relation to the early warning system and flood modelling findings. Further work continues to install flood markers and provide educational material to the three relevant communities
- increased resourcing within the organisation to improve dam governance and oversight
- continued independent third-party annual reviews and further visit by the appointed Independent Technical Review Board

At the Wafi-Golpu project, deep sea tailings placement has been selected as the preferred tailings management option based on consideration of long-term safety, engineering, environmental, social, cultural heritage and economic factors. Deep sea tailings placement is presently adopted in four countries and is in effect at three operations within Papua New Guinea

Tailings management

Effective mineral waste management reduces the aesthetic and land use challenges of mining, particularly during closure, as well as the potential for water and air pollution while maximising the recovery of ore, minerals and metals. Improved mineral waste management can result in significant savings and a reduction in energy consumption. Residual economic value can be generated from projects such as our Tswelopele reclamation initiative (Phoenix operation). Residual economic value can be generated from projects such as our Tswelopele reclamation initiative (Phoenix operation) and more recently the Central Plant reclamation operation.

In the past three years, 60.2Mt have been processed and deposited onto existing tailings dams.

To protect employees, communities and the environment, we handle all chemically reactive or radioactive waste appropriately by:

- minimising the quantity of material stored to limit the extent of the footprint of land disturbed
- ensuring storage sites are physically and chemically safe and well-engineered
- undertaking progressive rehabilitation – returning affected land to productive use after mining

Tailings comprise crushed rock and process water emitted from the gold elution process in the form of a slurry once the gold has been extracted. The composition, size and consistency of tailings vary by operation with opencast operations producing greater volumes in general than underground operations. Tailings and waste rock are usually inert but rock close to the orebody may be associated with metals or salts if these are characteristic of the orebody.

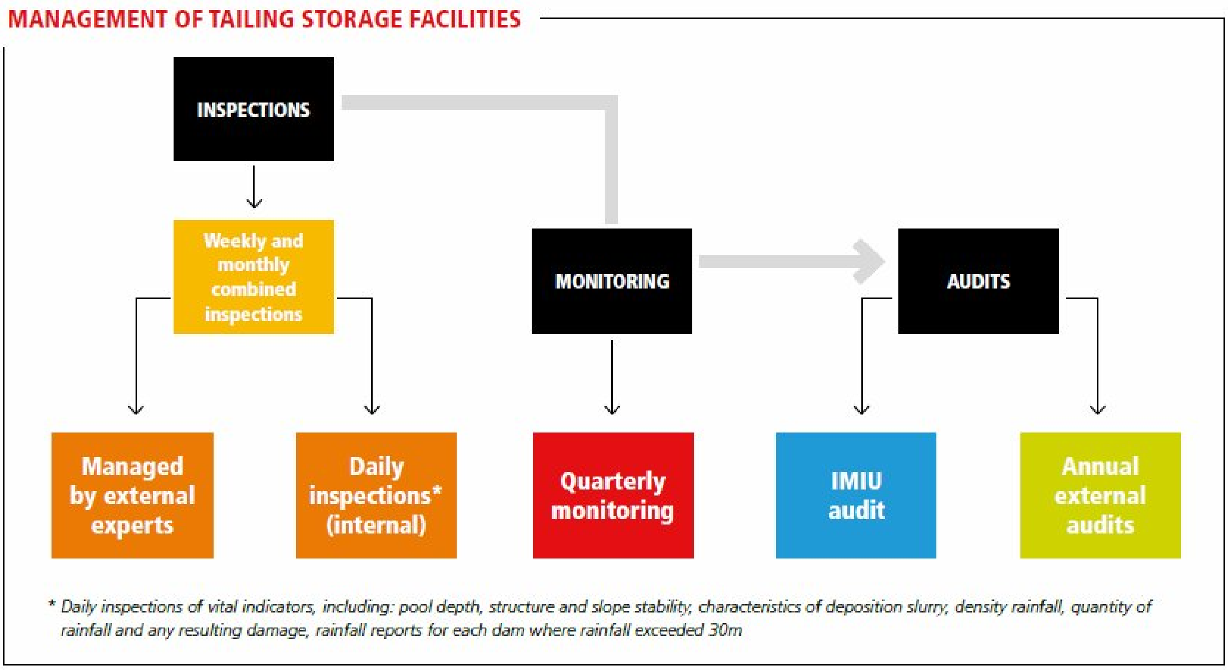
As tailings contain impurities or pollutants, they are placed on tailings dams engineered to contain the slime in line with our water management programme.

The fines are also collected and deposited on the tailings. Water is collected from toe drains and penstocks, and channelled to return water dams where it is available for reuse by the plant.

In the process, cyanide is destroyed – it self-destructs on the tailings when exposed to light – but salts and heavy metals can enter groundwater and create a pollution plume. We monitor our groundwater as public safety assessments have found that these plumes (contaminant plumes) could be contained in the tailings storage or water-management facilities.

Tailings dams have received significant coverage following the two recent international tailings dams' failures. Harmony has always operated and engineered its tailings dams in line with good practice and our operating and environmental codes. In response to these high-profile tailings dam failures, Harmony has undertaken annual audits with more vigour.

Harmony has received letters of comfort from its independent professional engineering consultants who provide oversight and surveillance services related to Harmony's tailings storage facilities.



Non-mineral waste

In FY19, 10 621t of waste (plastic, steel, wood and paper) was recycled (FY18: 16 939t). Significantly less non-mineral waste is generated than mineral waste (less than 0.2% of total waste).

Plastics, steel, paper and timber generated by processing operations are produced in lesser volume than mineral waste. This non-mineral waste is managed by recycling or reuse, off-site treatment, disposal or on-site landfills. We ensure responsible storage, treatment and disposal of non-mineral waste. Group environmental standards for non-mineral waste management are integrated into existing ISO 14001 systems.

Non-mineral waste is classified into hazardous and non-hazardous waste.

Hydrocarbons and cyanide are the chief hazardous waste streams at our operations. We aim to minimise much of the waste streams going to landfill by sending them to accredited institutions such as the Rose Foundation for repurposing while the remaining hydrocarbon waste is sent to appropriate landfill sites.

Type of waste

	FY19	FY18	FY17	FY16
Oils and grease waste generated				
Grease used (tonnes)	**426**	121	384	504
Lubricating and hydraulic oil used (million litres)	**3.163**	2.744	2.768	2.291
Oils to repurpose hydrocarbons to landfill – Oil recycled (000 litres)	**978**	N/A	N/A	N/A
Hazardous waste generated				
Tailings (million tonnes)	**24.2**	21.4	19.8	18.3
Hazardous waste to landfill (tonnes)	**399.24**	343.7	275.4	N/A

As we actively promote the recycling of our waste streams, we have initiated a reclamation programme that harvests underground equipment and infrastructure that is sent to the salvage yard where it is repurposed for potential consumption by other operations. In keeping with our transformation objectives, this initiative has seen the development, emergence and promotion of local entrepreneurs in the core mining sector.

Waste generated

	*FY19	FY18	FY17	FY16
Timber	**2 377**	1 085	1 504	N/A
Steel	**7 765**	5 699	6 944	6 229
Plastic	**479**	314	459	N/A

** Consumption of materials and waste generated increased with the inclusion of Moab Khotsong*

OUTLOOK/ FUTURE PRIORITIES

In addition to the five- and ten-year targets set, we will focus on:

- Continued investment in sources of renewable energy and efforts to reduce energy consumption and enhance efficiencies
- Explore initiatives to enhance water efficiency and increase proportion of water recycled, especially at our South African operations
- Implement initiatives to reduce non-hazardous waste with ultimate aim of zero waste to landfill
- Continue land rehabilitation programme, in South Africa and Papua New Guinea, so as to reduce our mining footprint and make available land for alternative economic uses such as agriculture

Our environmental planning includes planning for mine closure. Certain operations are facing closure and their closure plans, which encompass both the environmental and socio-economic impacts of closure, have detailed steps to mitigate the effects of closure and to ensure that, post-mining, the land will support alternative, sustainable and economically viable activities in the longer term.

We will remain mindful of the 2030 targets as set in the environment-related SDGs and monitor our progress towards achieving them. In addition, we will implement steps to comply with the World Gold Council's principles for responsible gold mining within three years.

MINING CHARTER II – COMPLIANCE SCORECARD

We report on our performance in relation to the Mining Charter throughout this integrated report. The table below sets out our performance in relation to the specific requirements of the Mining Charter, as gazetted in 2010, and our progress in terms of the Mining Charter targets set in 2014.

A declaratory order issued by a majority judgement of the High Court of South Africa in April 2018 recognised the continuing consequences of previous black economic empowerment transactions.

The latest version of the Mining Charter (referred to as Mining Charter III) was gazetted by the Minister of Mineral Resources in September 2018.

Harmony, through the Minerals Council South Africa, is engaging with the Department of Mineral Resources and Energy on certain issues of concern and we are optimistic that we may reach an amicable solution.

For further information and progress related to the revised Mining Charter, see the Minerals Council's website, www.mineralscouncil.org.za.

PROGRESS AGAINST MINING CHARTER TARGETS

Although negotiations on the implementation of Mining Charter III continue, our work in South Africa has continued towards fulfilling our commitments, in line with the underlying spirit of the 2014 Mining Charter (Mining Charter II) and our overall commitment to transformation. Our focus in the coming year will be on aligning with Mining Charter III.

The Mining Charter serves as a guide to the industry, focusing the transformation journey on several key elements. A template designed by the Department of Mineral Resources and Energy enables mining companies to provide the information necessary to assess their success in achieving key targets.

The table below summarises our performance against the targets for each pillar of Mining Charter II for the calendar year ended 31 December 2018.

Mining Charter II scorecard for calendar year 2018 (January – December)

	Compliance target	Target	Weighting	Progress	Score
1. Reporting					
Has the company reported its level of compliance with the Mining Charter for the calendar year?	Report annually	Yes	Yes/No	Yes	Yes
2. Ownership					
Minimum target for effective ownership by historically disadvantaged South Africans	Meaningful economic participation Full shareholder rights	26%	Yes / No	>26%	Yes
3. Housing and living conditions					
Conversion and upgrading of hostels to attain an occupancy rate of one person per room	Occupancy rate of one person per room	100%	Yes / No	100%	Yes
Conversion and upgrading of hostels into family units	Family units established (as part of mine community development)	Yes	Yes / No	*No	No
4. Procurement and enterprise development					
Procurement spend with black economic empowerment entities	Capital goods	40%	5%	73%	5%
	Services	70%	5%	72%	5%
	Consumable goods	50%	2%	77%	2%
Multinational suppliers' contribution to a social fund	Multinational supplier contributions	0.5%	3%	**0%	0%
5. Employment equity					
Diversification of workplace to reflect the country's demographics and attain competitiveness	Top management (board and executive management)	40%	3%	61%	3%
	Senior management	40%	4%	50%	4%
	Middle management	40%	3%	51%	3%
	Junior management	40%	1%	62%	1%
	Core skills	40%	5%	67%	5%
6. Human resource development					
Development of the requisite skills, including support for South African-based research and development initiatives intended to develop solutions in exploration, mining, processing, technology efficiency (energy and water use in mining), beneficiation as well as environmental conservation	Expenditure on human resource development as a percentage of payroll	5%	25%	5%	25%
7. Mine community development					
Conduct ethnographic community consultative and collaborative processes to delineate community needs analysis	Up to date project implementation	100%	15%	***72%	11%
8. Sustainable development and growth					
Improvement of the industry's environmental management	Implementation of approved environmental management plans	100%	12%	100%	12%
Improvement of the industry's mine health and safety performance	Implementation of tripartite action plans on safety and health	100%	12%	100%	12%

Use of South African-based research facilities for the analysis of samples across the mining value chain	Percentage of samples analysed in South African laboratories	100%	5%	100%	5%
			100%		93%

* *There were no hostels available for sustainable conversion at the time of reporting*

** *The multinational trust, the vehicle to progress this investment, has not yet been established by Government. Nonetheless, Harmony has requested that its multinationals demonstrate investment in social upliftment and many of our multinationals have supplied such evidence. However, to be conservative, Harmony has claimed 0% compliance*

*** *With the acquisition of Moab Khotsong in March 2018, we entered into a transition phase to June 2018, when the projects were being finalised with stakeholders. As a result, project implementation was delayed*

CORPORATE GOVERNANCE

Our duty to be a responsible corporate citizen is supported by our board of directors and their commitment to ethical leadership.

INTRODUCTION

Harmony's board of directors (the board) subscribes to the principles of good corporate governance. The board supports the definition of corporate governance as being the exercise of ethical and effective leadership towards the achievement of the following governance outcomes:

- Ethical culture and responsible corporate citizenship
- Good performance and value creation
- Effective control
- Legitimacy

These objectives form the foundation and framework for the corporate governance report of the board.

Discussed below are the practices within Harmony that the board believes confirm Harmony's application of the King IV Report on Corporate Governance for South Africa, 2016 (King IV) principles. With the Harmony board's long-standing commitment to good corporate governance, the board is comfortable that sufficient practices are and have been in place to promote Harmony's reputation as an ethical, reputable and legitimate organisation and a responsible corporate citizen.

In an attempt to focus on high-level, material practices and detail, additional information supporting specific matters is cross-referenced and linked to relevant sections in the integrated report where appropriate.

ETHICAL CULTURE AND RESPONSIBLE CORPORATE CITIZENSHIP

Ethical leadership

The board fully appreciates that it has to lead by example. Each member of the board is therefore expected to at all times exhibit the characteristics of integrity, competence, responsibility, accountability, fairness and transparency in his or her conduct. Collectively, the board's conduct, activities and decision-making are characterised by these attributes, which also form part of the regular assessment of the board and individual directors' performance. The board recognizes that ethics is one of the pillars of sustainable business practice.

The board charter elaborates on the standard of conduct expected from board members. In addition, the board policy on the declaration of interests not only limits the potential for a conflict of interest but also ensures that, in cases where conflict cannot be avoided, it is properly disclosed and proactively managed within the boundaries of the law and principles of good governance.

Organisational ethics

The board sets the group's approach to ethics. Oversight and monitoring of organisational ethics is the mandated responsibility of the social and ethics committee which fulfils this role on behalf of the board. Details of the arrangements for governing and managing ethics, key focus areas during the reporting period, measures taken to monitor organisational ethics and planned areas of future focus are contained in the *Social and ethics committee: chairman's report*.

The Ethics Institute of South Africa had conducted an ethics opportunity and risk assessment during the year under review and had reported its findings to the social and ethics committee of the board. The purpose of the assessment was to determine the current ethics opportunity and risk profile for Harmony. The outcome of the assessment will further inform the contents of our ethics management strategy and determine the scope and contents of ethics management interventions going forward. Key action items identified included:

- to increase awareness, action steps taken against transgressors, no tolerance towards corruption, anonymity when using the whistle blowing line and illegal mining
- to promote and emphasise the fair treatment of employees despite their status, age, gender or rank
- to communicate a clear process flow chart indicating how whistle blower concerns are addressed within the organisation
- to implement additional training opportunities within the organisation on ethical topics
- to develop a process to monitor all disciplinary actions taken to ensure consistency and fair treatment of employees

Responsible corporate citizenship

The mining industry introduces a unique responsibility and opportunity to the group to be a responsible corporate citizen. Although the board sets the tone and direction for the manner in which corporate citizenship should be approached and managed, ongoing oversight and monitoring of the group's performance against set targets again forms part of the mandate of the social and ethics committee. Extensive detail and information on the consequences of the group's activities and outputs that affect its status as a responsible corporate citizen with relevant measures and targets are given elsewhere in the integrated annual report relating to the following areas:

- **Workplace –** See *Employee relations, Socio-economic development, Remuneration report* and *Safety and health*
- **Economy –** See *Employee relations* and *Socio-economic development*
- **Society –** See *Employee relations* and *Socio-economic development* which includes reports on corporate social investment and human rights
- **Environment –** See *Environmental management and stewardship*

Political donations

Harmony supports the democratic processes in South Africa and Papua New Guinea, and contributes to their political parties. A policy relating to political donations has been adopted by the company. During the year under review, Harmony had donated R10 million towards the 2019 national elections of South Africa. The funds were divided proportionally to the support that the political parties had received during the previous national election.

GOOD PERFORMANCE AND VALUE CREATION

Strategy

The board is responsible for approving the group's short-, medium- and long-term strategy as formulated and developed by management. In doing so, the board focuses on numerous critical aspects of the strategy including, among others, the legitimate and reasonable needs, interests and expectations of material stakeholders as well as the impact of the group's activities and output on the various forms of capital employed as part of the business process. The risks and opportunities connected to the triple context (economy, society and the environment) within which the group operates are integral to the board's strategic reviews of the business.

Policies and operational plans that support the approved strategy are submitted regularly by management for review and formal board approval. The board attends an annual strategy session called a "bosberaad" – specifically dedicated to confirm and review the company's strategy.

Strategy is part of the ongoing conversation in the boardroom. Ongoing oversight of the implementation of strategy and operational plans takes place against agreed performance measures and targets.

As the company's reputation as a responsible corporate citizen is an invaluable attribute and asset, the consequences of activities and our outputs, in terms of the various capitals employed, are continuously assessed by the board through its subsidiary committees. This will ensure that we are able to respond responsibly and limit any negative consequences of our activities, to the extent reasonably possible. In addition, the board continuously monitors the reliance of the group on these capital inputs – employees, financial capital, the environment, our reserves and resources, communities and society at large, our mining infrastructure and our intellectual and technological know-how – as well as the solvency and liquidity and going concern status of Harmony.

Reporting

In protecting and enhancing the legitimacy and reputation of the group, the board ensures that comprehensive reporting is done on different platforms. In addition to this integrated annual report, a separate Report to shareholders as well as a Financial report and a Mineral resources and mineral reserves report are published. The group's sustainable development performance, as measured against the Global Reporting Initiative Scorecard, is included in the *ESG report 2019*.

It is the board's intention to not only meet minimum legal requirements but also the legitimate and reasonable information needs of material stakeholders. The board is comfortable with management's bases for determining materiality for the purposes of deciding what information should be included in our external reports. The audit and risk committee, with the assistance of the social and ethics committee, has also been tasked with reviewing all external reports to verify the integrity of the information contained therein.

EFFECTIVE CONTROL: BOARD STRUCTURES AND PROCESSES

Role of the board

The board exercises its leadership role by:

- Steering the group and setting its strategic direction
- Approving policy and planning that gives effect to the direction provided
- Overseeing and monitoring implementation and execution by management
- Ensuring accountability for the group's performance by means of, among others, reporting and disclosures

The role and function of the board, including guidelines relating to the board's composition and procedures, are documented in detail in the board charter, which is reviewed regularly to ensure that it remains relevant and applicable.

A protocol is in place to be followed in the event of any of the board members or committees needing to obtain independent, external professional advice at the cost of the company on matters within the scope of their duties. Non-executive directors are also aware of the protocol to be followed for requisitioning documentation from, and setting up meetings with, management. Notwithstanding, board members have direct and unfettered access to the chief audit executive, the company secretary and members of executive management.

Based on its annual work plan, the board is satisfied that it fulfilled its responsibilities during the period under review in accordance with its charter.

Information on the number of board meetings held by the board and attendance can be found on page 109.

Board composition, chairman and independence

The Harmony board remains committed to promoting diversity at all levels of the organisation, including at board level. The board increased its wealth of experience and diversity by appointing two black female independent non-executive directors, Ms Given Sibiya and Ms Grathel Motau, effective 13 May 2019.

The board has 17 highly experienced and reputable members, three of whom are executive directors.

On 15 August 2019, the board appointed Ms Given Sibiya and Ms Grathel Motau to the audit and risk committee and the investment committee respectively, to refresh the board and to enhance committee effectiveness and corporate governance. Both have been recommended for election by Harmony's shareholders at the 2019 annual general meeting. See the Notice of annual general meeting in the *Report to Shareholders 2019*.

The chairman of the board, Dr Patrice Motsepe, is a non-executive director but is not classified as independent. The board is satisfied that the lead independent director, Mr Mavuso Msimang, meets the requirements for an independent director under the Companies Act, Act 71 of 2008 (the Companies Act) and King IV, and any other criteria evidencing objectivity and independence established by the board. The duties of the chairman as well as the lead independent director have been included in the board charter and are based on the recommendations of King IV. The roles of the chief executive officer and chairman are separate.

In addition to the chairman and lead independent director, the board also has a deputy chairman, Mr Modise Motloba. These appointments are all reviewed annually and form part of the board's succession plan for the position of chairman.

Guidance provided by King IV, as far as the board chairman's membership of board committees is concerned, has been applied and the board chairman is only a member of the nomination committee. The nomination committee is chaired by the lead independent director.

Brief profiles of all board members can be found in the Board of directors section in this report, with their detailed resumes available online at *www.harmony.co.za*.

The majority of the non-executive directors are classified as independent and the independence of these board members has been reviewed by the nomination committee. The board appreciates that independence is first and foremost a state of mind and all board members, notwithstanding their categorisation, are expected to act independently and with unfettered discretion at all times. This expectation is also confirmed in the board charter.

Several independent non-executive directors have served in this capacity for periods longer than nine years. They are:

- Ms Fikile De Buck – 13 years
- Mr Joaquim Chissano – 14 years
- Dr Simo Lushaba – 17 years
- Ken Dicks – 11 years

The nomination committee specifically assessed the independence of these individuals on behalf of the board. The committee also satisfied itself that the individuals do not have any relationships that may impair, or appear to impair, their ability to apply independent judgement. In addition, there are no interests, positions, associations or relationships which, when judged from the perspective of a reasonable and informed third party, are likely to influence the members unduly or cause bias in their decision-making. The committee thus concluded that the members exercise objective judgement at all times. The wealth of experience of these members, in addition to their being known as reputable individuals of integrity and great character, makes their ongoing input and contribution an invaluable asset to the board and the group.

Diversity and transformation are key focus areas for the board. A policy on gender and race diversity at board level has been formally adopted. Four board members are female and 12 members are black. Considering all aspects relating to the composition of the board, the board is satisfied that its composition reflects the appropriate mix of knowledge, skills, experience and independence. In addition, the composition of the board and its leadership structure ensures that there is a balance of power in the boardroom and that no one individual has unfettered authority of decision-making.

As required by the provisions of Harmony's Memorandum of Incorporation, a third of the non-executive directors are expected to retire by rotation at each annual general meeting of the company. The names and profiles of these members have been included in the notice of the 2019 annual general meeting in the *Report to shareholders 2019*. The board is comfortable in recommending their re-appointment to shareholders.

See page 109 for more information on the board, its composition and characteristics.

Nomination, election and appointment

The nomination committee is also tasked with identifying potential candidates for appointment to the board while the actual appointment is a matter for the board as a whole. The collective knowledge, skills and experience required by the board as well as diversity performance are all aspects considered by the board before appropriate candidates are identified for nomination. The nomination committee conducts the necessary independence checks and investigations, as recommended by King IV, in respect of potential candidates.

Formal letters of appointment are provided to all new board members. In addition, new board members participate in an extensive induction programme to enable them to make the maximum contribution within the shortest possible time. Ongoing mentorship is provided to members with no or limited governance experience and they are encouraged to undergo appropriate training. Provision has also been made in the board's annual work plan for regular briefings on legal and corporate governance developments, as well as risks and changes in the external environment of the group.

Board composition, chairman, independence and meeting attendance

				Attendance by committee							
Name	Age (years)	Appointed director	Independent	*Audit and risk committee	** Social and ethics committee	** Technical committee	** Investment committee	Remuneration committee	Nomination committee	Attendance at board meetings	
Non-executive directors											
Dr Patrice Motsepe (Chairman)	57	***2003							3/3	5/5	100%
Mr Modise Motloba (Deputy chairman)	53	2004		[#]4/6	7/7		5/6		3/3	5/5	100%
Mr Mavuso Msimang (lead independent)	78	2011	√		5/7				3/3	5/5	100%
Dr Simo Lushaba	53	2002	√	6/6	7/7		4/6	5/5		5/5	100%
Ms Fikile De Buck	59	2006	√	6/6	5/7			5/5	3/3	4/5	80%
Ms Karabo Nondumo	41	2013	√	6/5		6/6	5/6			5/5	100%
Mr Ken Dicks	80	2008	√			5/6	5/6			5/5	100%
Mr John Wetton	70	2011	√	6/6	6/7		6/6	5/5		5/5	100%
Mr Max Sisulu	74	2018	√		4/7					4/5	80%
Mr Vishnu Pillay	62	2013	√			6/6	6/6	5/5		5/5	100%
Pres. Joaquim Chissano	80	2005	√		2/7				2/3	4/5	80%
Mr André Wilkens	70	2007				6/6	6/6	5/5		5/5	100%
Ms Grathel Motau [##]	45	2019	√							1/5	20%
Ms Given Sibiya[##]	51	2019	√							1/5	20%
Executive directors											
Mr Peter Steenkamp	59	2016								5/5	100%
Mr Frank Abbott	64	2012								5/5	100%
Mr Harry Mashego	55	2010								4/5	80%

* Includes one ad hoc meeting for the year

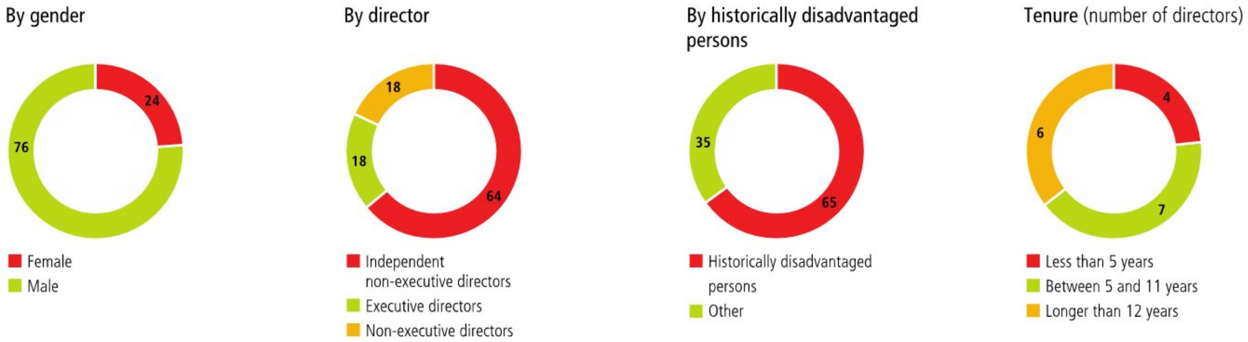
** Includes site visits

*** Appointed chairman in 2004

[#] Resigned as member of the audit and risk committee on 21 October 2019

[##] Appointed to the board on 13 May 2019

Board characteristics (%)



Conflicts of interest

Each member of the board is required, among others, to submit a general declaration of financial, economic and other relevant interests and to update these general declarations as and when necessary as a result of significant changes. In addition, the declaration of interests in any matter on the agenda of a meeting of the board or a board committee is a standard item at the start of every meeting. In the event of a potential conflict being declared, the board proactively manages such conflict within the boundaries of the law.

Board performance evaluations

The board fully supports the notion that an appropriate evaluation of the board and its various structures is a strategic value adding exercise that facilitates the continued improvement of the board's performance and effectiveness. For this reason an independent formal self-evaluation process was again undertaken during the past year and included an assessment of the performance of the board, its chairman and individual members as well as the board committees, chief executive officer and company secretary.

Overall, the self-evaluation reconfirmed that the board and board committees were considered to be:
- highly effective
- appropriately positioned to discharge their governance responsibilities and that the board is well supported by its committees
- working as a cohesive unit and that the highest ethical standards are applied in deliberations and decision-making, thus enabling the board to provide effective leadership based on an ethical foundation

The general consensus among board members is that the chief executive officer:
- communicates effectively with all of Harmony's stakeholders
- created and implemented an effective strategy, supported by management
- demonstrates ethical and transparent leadership by living the company's culture and reinforcing its values

Considering the outcome of the evaluation process, the board is satisfied that the process is improving its performance and effectiveness.

The following matters were highlighted as further areas for improvement:
- Although the board recently appointed two additional black women to the board, the board acknowledges the need to further improve representation on the board from a gender perspective
- Harmony's retention plan should be formalised into a policy
- A formal benchmarking of non-executive director fees should again be done
- Although the audit and risk committee monitors cyber security on behalf of the board, more information should be presented to the board as a whole

Appointment and delegation to management

The board is responsible for appointing the chief executive officer on recommendation by the nomination committee. Harmony's chief executive officer is responsible for leading implementation and execution of the board-approved strategy, policy and operational planning, and serves as a link between the board and management.

He is accountable and reports to the board. The chief executive officer is not a member of the remuneration, audit or nomination committees. He does, however, attend meetings of these committees as and when required for him to contribute insights and information.

Succession planning for this position forms part of the executive succession plan that is monitored on behalf of the board by the nomination committee. An emergency succession plan is also in place.

A formal delegation of authority framework is in place and is reviewed regularly by the board to ensure its appropriateness and relevance to the business. The delegation of authority addresses the authority to appoint executives who may serve as ex officio executive members of the board and to make other executive appointments.

The board has identified key management functions and ensures that these functions are headed by individuals with the necessary competence and authority, and are adequately resourced. Executive succession planning includes plans for executive management succession and other key positions in order to provide continuity of leadership and business. These plans are reviewed periodically by the nomination committee on behalf of the board.

Company secretary

The board has direct access to the company secretary who provides professional and independent guidance to the board as a whole and to members individually on corporate governance and legal duties. The company secretary also supports the board in co-ordinating the effective and efficient functioning of the board and its committees.

The company secretary is a full-time employee of Harmony and also oversees the legal function in the group. She is a qualified attorney, conveyancer and notary and has been a company secretary for the past 15 years (12 years in a listed environment). Her summary resumé is included in the separate document, *Board and management resumés 2019.* In order to facilitate and enhance the independence and effectiveness of the company secretary, the board ensures that the office of the company secretary is empowered and that the position carries the necessary authority. The remuneration committee considers and approves the remuneration of the company secretary on behalf of the board.

The company secretary has unfettered access to the board and, at all times, retains an arms-length relationship with the board in order to enhance the independence of the position. The company secretary is not a member of the board but, being accountable to the board, reports to the board via the chairman on all statutory duties and functions performed in connection with the board.

The board annually assesses the performance and independence of the company secretary and also confirms that the company secretary has the necessary competence, gravitas and objectivity to provide independent guidance and support at the highest level of decision-making in the group. The company secretary's performance and independence were assessed at the end of the year under review, and the board is satisfied with her competence, experience and qualifications.

The board is therefore comfortable that the arrangements in place for accessing professional corporate governance services are effective.

Board committees

The board has delegated particular roles and responsibilities to standing committees based on relevant legal requirements as well as on what is appropriate for the group and to achieve the objectives of delegation. The board recognises that duties and responsibilities can be delegated but that accountability cannot be abdicated. The board, therefore, remains ultimately accountable.

The following committees have been established:

- Audit and risk committee
- Investment committee
- Nomination committee
- Remuneration committee
- Social and ethics committee
- Technical committee

Disclosures in respect of each committee can be found from page 112 of this report.

Formal terms of reference have been adopted for each board committee and are reviewed annually (and when necessary) to ensure that the content remains appropriate and relevant. The terms of reference address, as a minimum, the recommended items in King IV.

In considering the membership of board committees, the board, with the assistance of the nomination committee, is mindful of the need for effective collaboration through cross-membership between committees, where required. The timing of committee meetings is co-ordinated so as to facilitate and enhance the effective functioning of and contribution made by each of the committees. The duties and responsibilities of each committee have been documented so as to clearly define the specific role and positioning of each committee in relation to topics that may be within the mandate of more than one committee. Committee membership has also been addressed to ensure a balanced distribution of power across committees so that no person has the ability to dominate decision-making and no undue reliance is placed on any one person.

The board is comfortable that each committee, as a whole, has the necessary knowledge, skills, experience and capacity to execute its duties effectively and with reasonable care and diligence. Each committee has, as a minimum, three members. Members of the executive and senior management are invited to attend committee meetings as deemed appropriate and necessary for the effective functioning of the committee.

Any board member who is not a member of a specific committee is entitled to attend meetings of a board committee as an observer but is not entitled to participate without the consent of the committee chairman. Such members have no vote in meetings and will not be entitled to fees for attendance, unless specifically agreed by the board and provided for in the board fee structure as approved by shareholders.

The board considers the recommendations as provided by board committees in matters requiring board approval but remains responsible for applying its collective mind to the information, opinions, recommendations, reports and statements presented by the committees.

During FY19, the majority of the members of all board committees remained independent non-executive directors. All board committees were chaired by an independent non-executive director, except for the technical committee chaired by André Wilkens and the investment committee chaired by Modise Motloba who are both non- independent, non-executive directors. The board remains confident that André and Modise's leadership as chairmen of the technical and investment committees respectively, is in the best interests of the company, based on their extensive knowledge of the specific areas of responsibilities of those committees.

A brief description of each board committee, its functions and what each committee achieved during FY19, follows.

AUDIT AND RISK COMMITTEE

				Core expertise				
	Indepen-dent	Non-executive	Committee member tenure	Accounting and invest-ment	Internal and external auditing	Treasury and fund manage-ment	Risk manage-ment	Mining, legal and financial industry
Fikile De Buck (Chairman)*	√	√	13 years	√	√	√	√	√
Modise Motloba**		√	15 years	√		√	√	√
John Wetton	√	√	8 years	√	√	√	√	√
Karabo Nondumo	√	√	6 years	√	√	√	√	√
Dr Simo Lushaba	√	√	16 years	√		√	√	√
Given Sibiya	√	√	Appointed 15 Aug 2019	√	√		√	√

Primary functions

- Monitors the operation of an adequate system of internal control and control processes
- Monitors the preparation of accurate financial reporting and statements in compliance with all applicable legal and corporate governance requirements and accounting standards
- Monitors risk management, ensures that significant risks identified are appropriately addressed and supports the board in the overall governance of risk

Key activities and actions in FY19

For the actions of the audit and risk committee in FY19 refer to the *Audit and risk committee: chairman's report*

- Reviewed the company's quarterly and annual financial results
- Evaluated and considered Harmony's risks, as well as measures taken to mitigate those risks
- Monitored the internal control environment in Harmony and found it to be effective
- Discussed the appropriateness of accounting principles, critical accounting policies, management judgments, estimates and impairments, all of which were found to be appropriate
- Considered the appointment of the external auditor, PricewaterhouseCoopers Inc, as the registered independent auditor for the ensuing year
- Satisfied itself that the external audit firm, PricewaterhouseCoopers Inc, was suitable and independent from the company
- Evaluated the independence and effectiveness of the internal audit function
- Evaluated and coordinated the internal audit, external audit and sustainability assurance processes
- Received and considered reports from the external and internal auditors
- Reviewed and approved internal and external audit plans, terms of engagement and fees, as well as the nature and extent of non-audit services rendered by the external auditors
- Considered the appropriateness and expertise of the financial director, Frank Abbott, as well as that of the finance function – both were found to be adequate and appropriate
- Considered whether information technology risks are adequately addressed and whether appropriate controls are in place to address these risks. The committee oversees and monitors the governance of information technology on behalf of the board, a task it views as a critical aspect of risk management. Additionally, the committee considered and approved the company's information technology strategy as well as the company's cyber security policy
- Considered and confirmed the company as a going concern
- Considered and approved the company's treasury policy
- Reviewed and recommended the company's dividend policy for board approval
- Considered and approved the company's internal audit charter
- Reviewed and recommended the company's delegation of authority policy for board approval
- Considered and approved the company's non-audit services policy

** Appointed as chairman on 10 May 2018*

***Resigned as member on 21 October 2019*

REMUNERATION COMMITTEE

				Core expertise	
	Independent	Non-executive	Committee member tenure	Accounting and financial management roles	Leadership and transformation
Vishnu Pillay (Chairman)*	√	√	4 years	√	√
Fikile De Buck	√	√	9 years	√	√
John Wetton	√	√	8 years	√	√
Dr Simo Lushaba	√	√	14 years	√	√
André Wilkens		√	12 years	√	√

Primary functions

- Ensures directors and executive management are fairly rewarded for their contribution to Harmony's performance
- Assists the board in monitoring, reviewing and approving Harmony's compensation policies and practices, and in the administration of its share incentive schemes
- Operates as an independent overseer of the group remuneration policy and makes recommendations to the board for final approval

Key activities and actions in FY19

- Reviewed the benefits and remuneration principles as applied to Harmony executive management
- Received and discussed a summary of the total suite of Harmony executive management incentive schemes in order to obtain a holistic view
- Reviewed and recommended the committee's terms of reference to the board for approval
- Considered and recommended the remuneration policy and implementation report to the board for inclusion in the notice of annual general meeting for consideration by the shareholders as non-binding advisory resolutions (see Remuneration report)
- Reviewed executive directors' and executive management's remuneration benchmarks and recommended their annual salary increases to the board for approval (see Remuneration report)
- Reviewed the annual salary increases of the company secretary and chief audit executive
- Considered and recommended the company's Total Incentive Plan Balanced Scorecard for FY20 for board approval

** Appointed as chairman on 11 May 2017*

NOMINATION COMMITTEE

				Core expertise		
	Independent	Non-executive	Committee member tenure	Corporate governance	Leadership and transformation	General management
Mavuso Msimang (Chairman)*	√	√	7 years	√	√	√
Patrice Motsepe		√	16 years	√	√	√
Joaquim Chissano	√	√	13 years	√	√	√
Modise Motloba		√	9 years	√	√	√
Fikile De Buck	√	√	9 years	√	√	√

Primary functions

- Ensures that procedures governing board appointments are formal and transparent
- Makes recommendations to the board on all new board appointments
- Reviews succession planning for directors and other members of the executive team and oversees the board's self-assessment process

Key activities and actions in FY19

- Reviewed succession planning for directors and other members of the executive team and oversaw the board's self-assessment process
- Reviewed and recommended for re-election directors who retire by rotation in terms of the company's memorandum of incorporation
- Reviewed and made recommendations on the composition, structure and size of the board and board committees, in line with the board's policy on gender and race diversity
- Considered the positions of the chairman and the deputy chairman of the board and the lead independent director and made recommendations to the board
- Reviewed and recommended the independence of non-executive directors (especially independent non-executives serving on the board for longer than nine years)
- Reviewed and recommended immediate and long-term succession plans for the board, the chairman of the board, the chief executive officer, executive management and the company secretary
- Considered the programme in place for the professional development and regular briefings on legal and corporate governance developments, risks and changes in the external environment of the organisation

** Appointed as chairman on 10 May 2018*

SOCIAL AND ETHICS COMMITTEE

				Core expertise				
	Indepen-dent	Non-executive	Committee member tenure	Sustainable development	Stakeholder relations	International and government relations	Social development and transformation strategy	Environmental, Social and Governance
Dr Simo Lushaba (Chairman)*	√	√	1 year	√	√		√	√
Modise Motloba		√	14 years	√	√		√	√
John Wetton	√	√	8 years	√			√	√
Mavuso Msimang	√	√	8 years	√	√	√	√	√
Joaquim Chissano	√	√	13 years	√	√	√	√	√
Fikile De Buck	√	√	13 years	√			√	√
Max Sisulu	√	√	1 year	√	√	√	√	√

Primary functions

- Oversees policy and strategies pertaining to occupational health and employee well-being, environmental management, corporate social responsibility, human resources, public safety and ethics management
- Monitors implementation of policies and strategies by executives and their management teams for each discipline referred to above
- Assesses Harmony's compliance against relevant regulations
- Reviews material issues in each of the above disciplines to evaluate their relevance in the reporting period, and to identify additional material issues that warrant reporting, including sustainability-related key performance indicators and levels of assurance

Key activities and actions in FY19

- Reviewed and recommended the social and ethics committee report to be included in the integrated annual report
- Reviewed and considered the social, economic, human capital and environmental issues affecting the company's business and stakeholders
- Reviewed and considered the effect that the company's operations had on the economic, social and environmental well-being of communities, as well as significant risks within the ambit of the committee's responsibilities
- Approved material elements of sustainability reporting and the key performance indicators which were externally assured
- Considered and monitored the company's internal and external stakeholder relations
- Attended an occupational health site visit in Lesotho relating to Harmony's collaboration with TEBA to trace and stay in contact with former employees to ensure that claims for occupational lung disease are paid efficiently
- Reviewed and recommended changes to the committee's terms of reference to the board for approval
- Considered and approved the company's strategy on preferential procurement and the enterprise and supplier development framework
- Reviewed and recommended the company group behavioural code and code of conduct
- Reviewed and recommended the committee's terms of reference to the board for approval

See *Social and ethics committee: chairman's report*

** Appointed as chairman on 10 May 2018*

INVESTMENT COMMITTEE

				Core expertise				
	Independent	Non-executive	Committee member tenure	Investment/ Banking and Financial advisory	Entrepreneurship and business development	Mergers and acquisitions	General management	Governance and legal
Modise Motloba (Chairman)*		√	1 year	√	√	√	√	√
Dr Simo Lushaba	√	√	15 years	√	√	√	√	√
John Wetton	√	√	8 years	√	√	√	√	√
Karabo Nondumo	√	√	6 years	√	√	√	√	√
Ken Dicks	√	√	11 years		√	√	√	√
Vishnu Pillay	√	√	6 years		√	√	√	√
André Wilkens		√	12 years		√	√	√	√
Grathel Motau	√	√	Appointed 15 Aug 2019	√	√	√	√	√

Primary functions

- Considers projects, acquisitions and disposals in line with Harmony's strategy and ensures that due diligence procedures are followed
- Conducts other investment-related functions designated by the board

Key activities and actions in FY19

- Considered investments, proposals, projects and proposed acquisitions in line with the board's approved delegation of authority and the committee's terms of reference
- Attended a site visit for a detailed update on the Kalgold optimisation study and exploration drilling
- Reviewed and recommended the budget and business plans for FY20
- Reviewed and recommended the committee's terms of reference to the board for approval

** Appointed as chairman on 10 May 2018*

TECHNICAL COMMITTEE

				Core expertise				
	Independent	Non-executive	Committee member tenure	Overall gold mining experience	Mining engineering	Mining technology	Project management and general management	Risk management
André Wilkens (Chairman)*		√	11 years	√	√	√	√	√
Ken Dicks	√	√	11 years	√	√	√	√	
Karabo Nondumo	√	√	3 years				√	√
Vishnu Pillay	√	√	6 years	√	√	√	√	

Primary functions

- Provides a platform to discuss strategy, performance against targets, operational results, projects and safety
- Informs the board of key developments, progress against objectives and the challenges facing operations
- Reviews strategic plans before recommending such to the board for approval
- Provides technical guidance and support to management

Key activities and actions in FY19

- Monitored safety across all operations
- Monitored exploration and ore reserves in South Africa and Papua New Guinea
- Monitored all South African and Papua New Guinean operations
- Reviewed and recommended to the board the company's annual budget and business plans for FY20
- Attended a site visit for a detailed update on the Kalgold optimisation study and exploration drilling
- Considered investments, proposals, projects and proposed acquisitions from a technical point of view
- Reviewed and recommended the committee's terms of reference to the board for approval

** Appointed as chairman on 22 January 2008*

EFFECTIVE CONTROL – GOVERNANCE FUNCTIONAL AREAS

Risk governance

The board appreciates that risk is integral to the way it makes decisions and executes its duties. Risk governance in the boardroom encompasses both risks and opportunities as well as a consideration of the potential positive and negative effects of any risks on the achievement of the group's objectives.

The group's risk appetite and tolerance levels, which support its strategic objectives, are considered annually. The board is supported in this area by the audit and risk committee.

Responsibility for implementing and executing effective risk management is delegated by the board to management. The board acknowledges the need to integrate and embed risk management in the business activities and culture of the group. The audit and risk committee is tasked with ensuring independent assurance on the effectiveness of risk management in the group, and when deemed necessary and appropriate.

In the previous year, Internal audit conducted a gap analysis on corporate governance in the company. The outcome revealed that the company was materially compliant.

The results of the ongoing oversight of risk management as well as detail on the nature and extent of the risks and opportunities that the group is willing to take are disclosed in *Managing our risks and opportunities*. An overview of the arrangements for governing and managing risk, key areas of focus during the reporting period, actions taken to monitor the effectiveness of risk management and planned areas of future focus are also included.

Technology and information governance

The board accepts responsibility for governing technology and information in a way that supports the group in setting and achieving its strategic objectives. The board is supported in this area by the audit and risk committee.

A technology and information steering committee, chaired by the chief financial officer (Boipelo Lekubo) and with its membership covering the head of information services and members of the group executive committee, has a well-defined charter and is responsible for the oversight of technology and information direction, investment and alignment with business strategy and priorities.

Management adopted the Control Objectives for Information and Related Technologies (COBIT), a framework published by the Information Systems Audit and Control Association (ISACA) for IT management and IT governance. COBIT provides a set of recommended best practices for governance and control processes of information systems and technology with the goal of aligning IT with business. COBIT is positioned at a high level and has been aligned and harmonised with other, more detailed IT standards and good practices.

Internal audit provides assurance to management and the audit and risk committee on the effectiveness of the governance of technology and information.

Compliance governance

The foundation of our corporate governance is compliance with the Companies Act, the requirements of the JSE, where we have our primary listing, and of the New York Stock Exchange as well as with the King IV Report and related principles and codes of good corporate governance. Harmony also complies voluntarily with the principles of the United Nations Global Compact, International Council on Mining and Metals, the Global Reporting Initiative and the International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (Cyanide Code).

Being an ethical and responsible corporate citizen requires zero tolerance for any incidences of legislative non-compliance. In addition, compliance with adopted, non-binding rules, codes and standards is essential in supporting the achievement of strategic business objectives.

Corporate governance policy

Acknowledging the significance of compliance, the board, through the audit and risk committee, adopted a formal corporate governance and compliance policy which sets out the principles of good corporate governance for the board as well as all employees at all operational levels.

Code of conduct

Developed to respond to the challenge of ethical conduct in the business environment, our code of conduct commits Harmony, our employees and our contractors to the highest moral standards, free from conflicts of interest. The board reviews the code of conduct at least every second year, while its application within Harmony is continually monitored by management. The code of conduct was reviewed and updated during FY18. Our ethics programme is also subject to independent assurance as part of the internal audit coverage plan.

The code of conduct addresses critical issues including anti-corruption, gifts and entertainment and declarations of interests. It encourages employees and other stakeholders to report any suspected irregularities. This can be done anonymously through a 24-hour hot line (which is managed by an independent consulting firm), as well as other channels. All incidents reported are investigated and monitored by the white-collar crime committee, which comprises managers representing various disciplines in the company and reports to the management ethics committee.

Whistleblowing policy

Our whistleblowing policy encourages shareholders, employees, service providers, contractors and members of the public to report practices at any of our workplaces that are in conflict with any law, regulation, legal obligation, ethical codes or governance policies. It also provides a mechanism for our stakeholders to report these practices internally, in confidence, independent of line management, and anonymously if they so wish. The whistleblowing policy informs whistleblowers of their rights.

The identity of any employee or stakeholder who reports non-compliance with the code of conduct is protected. Our anonymous ethics hotline numbers, which are widely advertised throughout the organisation, are:

- South Africa: +27 (0) 800 204 256
- Papua New Guinea: +675 (0)00 861 239
- Australia: +61 (1) 800 940 949

Ethics officer and ethics management committee

Harmony has a permanent ethics officer who ensure that the ethics management plan and programme is executed sufficiently and is duly communicated throughout the organisation. Our management ethics committee monitors our ethical culture and integrity with the assistance of the ethics officer. The following were introduced and developed further during the past year:

- Verification processes to identify politically exposed persons
- Verification processes for purposes of doing business with international companies
- Effective reporting format to the social and ethics committee

The management ethics committee also assesses declarations of interest in terms of the code of conduct and provides feedback to the executive committee, which then reports to the board's social and ethics committee. As a result, ethics are discussed and examined at every level of management within the company.

Protection of Personal Information Act

Although the Protection of Personal Information Act, 4 of 2013 (POPIA) is enacted but not in force as yet, Harmony stays committed to implement measures in adherence to requirements stipulated by POPIA in support of good governance. Creating POPIA awareness within the organisation remains ongoing.

In accordance with POPIA, the information and compliance officer manages the company's information, ensures compliance with POPIA, manages the company's records and archives and ensures compliance with the company's regulatory environment in general. The information and compliance officer compiles information and reports on the status of legislative compliance at the audit and risk committee meetings.

Promotion of Access to Information Act

Harmony complies with the Promotion of Access to Information Act, which protects the constitutional right to information that is required to exercise or protect a right. The purpose of this legislation is to foster a culture of transparency and accountability in public and private bodies, and to promote a society in which all South Africans are enabled to enjoy their rights. For more on this see our website: *www.harmony.co.za/sustainability/governance#policies.*

There has been a noticeable increase in requests for human resource and medical related information during FY19. The majority of these requests were related to the silicosis class action suit. Information was provided in accordance with PAIA regulations. The company received 194 requests for access to information in terms of this legislation during FY19.

Broad-Based Black Economic Empowerment Act

The annual compliance report in line with section 13G(2) of this Act can be found on pages 102 of this report.

Dealing in Harmony shares

During price-sensitive periods, our employees and directors are prohibited from dealing in Harmony shares. Written notice of these restricted periods is communicated to employees and directors by the company secretary. In terms of regulatory and governance standards, directors and employees are required to disclose any dealings in Harmony shares in accordance with the JSE Listings Requirements. The clearance procedure for directors and the company secretary to deal in Harmony shares is regulated by the company's policy on trading in shares and insider trading. The policy is reviewed every second year.

Significant fines

On 4 October 2018, Harmony reached a mutually acceptable settlement with the Financial Sector Conduct Authority of South Africa. The dispute related to incorrect financial results reported for the March 2007 quarter. Harmony informed shareholders and the authorities of the error in August 2007. Subsequently, Harmony reviewed all financial accounting procedures and systems to ensure that a similar bona fide error would not occur. Following various discussions with the authorities, an administrative penalty of R30 million (US$2.2 million) was imposed and paid by Harmony.

Harmony paid no other significant fines in any of its areas of operation and had no other actions brought against it for anti-competitive behaviour or for anti-trust or monopoly practices during FY19.

Foreign private issuers

New York Stock Exchange foreign private issuers, such as Harmony, must briefly highlight any significant ways in which their corporate governance practices differ from those followed by United States domestic companies subject to the listing standards of the New York Stock Exchange. A brief summary of these differences can be found in our 2019 Form 20-F filed with the United States Securities and Exchange Commission on our website at: *https://www.harmony.co.za/investors/reporting/20f*.

Remuneration governance

Attracting and retaining the required skills depends,to a large extent, on the remuneration levels and practices in any business. It is therefore vital to ensure that the group remunerates fairly, responsibly and transparently so as to promote the achievement of strategic objectives and positive outcomes in the short, medium and long term. The board is supported in this area by the remuneration committee.

Extensive detail on group remuneration is provided in the *Remuneration report*. In addition, provision has been made in the notice of the 2019 annual general meeting for a non-binding advisory vote of shareholders on both the remuneration policy as well as on the remuneration implementation report see the *Report to shareholders 2019*.

Assurance and internal audit

The audit and risk committee oversees the arrangements for assurance services and functions on behalf of the board to ensure that those arrangements are effective in achieving the objectives of an enabling control environment and supporting the integrity of information, for internal decision-making and external reporting purposes.

A combined assurance model is applied that effectively covers the group's significant risks and material matters through a combination of internal functions and external service providers. Additional detail on the combined assurance model is provided in the Assurance report.

Notwithstanding the output of the combined assurance model, board members are expected to apply an enquiring mind, form their own opinion on the integrity of the information and reports, and the degree to which an effective control environment has been achieved.

Internal audit plays an important part in the overall assurance approach and effectiveness of the assurance model. The audit and risk committee oversees the internal audit function on behalf of the board. More information on the internal audit function is contained in the *Audit and risk committee: chairman's report*.

External independent quality assessment

During FY19, the internal audit function underwent an independent quality review conducted by the Institute of Internal Auditors South Africa. The internal audit function was found to generally conform with the International Standards for the Professional Practice of Internal Auditing. No material findings were noted

Legitimacy

Stakeholder relationships

In the interests of Harmony's reputation and its legitimacy, the board sets the direction for the group's approach to stakeholder relationships. An inclusive stakeholder-engagement model that considers the legitimate needs, interests and expectations of all material stakeholders has been adopted.

Information on the material stakeholders and the manner in which relationships with stakeholders are managed is provided in *Stakeholder engagement* and *Our material ESG* issues which also addresses, among others, the arrangements for governing and managing stakeholder relationships, key areas of focus during the reporting period, actions taken to monitor the effectiveness of stakeholder management and future focus areas.

Shareholders are encouraged to attend the Harmony annual general meeting, details of which are contained in the notice of the 2019 annual general meeting in the *Report to shareholders 2019*.

REMUNERATION REPORT

DEAR SHAREHOLDER

I am pleased to submit the Remuneration Report as part of Harmony's Integrated Annual Report 2019. To ensure peak performance and that our business objectives are responsibly met, it is imperative that employees and directors of the company are fairly and responsibly rewarded.

The remuneration committee plays an important role in ensuring fair, equitable and responsible remuneration practices. The implementation of the new total incentive, overwhelmingly approved at the 2018 annual general meeting, is an important change to our management remuneration policy going forward. We also continue to make significant progress in reflecting company performance and the topical issues of a living wage, diversity and pay equality.

Safe production – our number one priority in everything we do

The remuneration committee mourns and acknowledge the tragic loss of 11 of our employees at our South African operations during the 2019 financial year.

Harmony's ongoing efforts to address safety in the workplace have resulted in fewer lost time injuries. We follow an integrated risk management approach, which includes safety training, awareness campaigns, safety days at each of our operations and equipping our employees with the necessary skills to identify hazards and act safely. Safe production is a responsibility that we, at Harmony, consider very seriously. Every person has the right to withdraw from an unsafe area and employees are encouraged to report unsafe working conditions. With each fatality, a thorough investigation is conducted and lessons learnt are shared throughout the company. Employees are held accountable for not complying with safety regulations. Efforts to improve safety cannot, however, focus solely on discipline and training. Safety outcomes are therefore held in high regard and further re-enforced in our remuneration policy. For more information on what has been done to address our safety performance, see Safety and Health.

Although the company's lost-time injury frequency rate was excellent during the financial year, as recommended by the remuneration committee, the board decided not to acknowledge the lost-time injury frequency rate achievement due to the number of fatalities suffered during the year. See Part 2 of this Remuneration report.

The new total incentive plan approved by our shareholders is applicable from 1 July 2019 and the lost-time injury frequency rate component carries a weighting of 15% of the total score on the balanced scorecard.

The industry and national context

The South African gold industry is maturing and shrinking with annual gold production declining from 137 tonnes in 2017 to 117 tonnes in 2018. Gold sales declined by 15% to R69.7 billion in 2018 (R82.9 billion in 2017)[1]. With multiple challenges presented by increasing mining depth, rising costs and a volatile rand gold price, South African gold mines are under pressure to deliver a reasonable margin after all-in sustaining costs have been considered.

[1] *https://www.mineralscouncil.org.za/sa-mining/gold*

[2] *https://tradingeconomics.com/south-africa/living-wage-individual*

Despite this industry context, we remain committed to paying a "living wage" to our employees. For a detailed account of the overall remuneration packages of Harmony's entry-level employees (category 4-8 employees), please refer to page 129 of this Remuneration Report.

Harmony's social responsibility

Social equality remained a top priority with focus on paying "living wages" to entry-level workers. Managing the wage gap included finding innovative solutions that would address workers' most pressing basic financial concerns. This calls for innovative thinking at all levels and by all role players.

We are pleased to confirm that Harmony pays all category 4 employees at least three times the 2018 living wage of R6 570 per month, as determined by Trading Economics [2].

We continually strive to improve the lives of our employees by improving living conditions, access to social services, healthcare, and education and training. See Employee relations and page 123 of this Remuneration Report.

Fair and responsible pay

Remunerating executives fairly and holding them accountable for the success of the business is in the interests of all stakeholders, including employees, the community at large, and our business partners and suppliers.

We remunerate fairly and responsibly by ensuring that our remuneration is market-related and in line with the performance of the company. We also ensure that our minimum remuneration compares favourably with the South African living wage, and that the measurement of the pay gap between the lowest and highest employment levels is established and monitored as discussed below.

In FY19, an average increase of 5% in guaranteed remuneration packages for non-unionised employees and 7.75% for unionised employees was approved. In order for the committee to track the income dispersion between high- and low-income earners more efficiently, the Palma ratio has been selected. This form of measurement is becoming emerging market best practice as it is easier to calculate and understand than the Gini co-efficient. The Palma ratio is calculated by comparing the average income of the top 10% earners compared to the average of the lowest 40% earners at Harmony South Africa. Harmony's Palma ratio in 2019 was 5.5 compared to 5.7 in 2018.

Financial and operational performance

In line with our strategy to produce safe, profitable ounces and increasing margins through operational excellence and value-accretive acquisitions, annual gold production and cash flows were boosted by the inclusion of a full year of production from Moab Khotsong and Hidden Valley respectively. The group achieved a 17% increase in gold production at 1.44 million ounces in line with annual production guidance of 1.45 million ounces. Underground recovered grade increased by 2% to 5.59g/t – the seventh consecutive year of increasing grade.

Gender and racial equality

Harmony's remuneration policy is to remunerate based on an individual's ability, skills and knowledge. Men and women, irrespective of their race, are paid equally for equivalent roles. There is no differentiation in remuneration based on gender, race or any other arbitrary reason. The gender distribution for all employment categories is discussed more fully in Part 2 of this Remuneration Report. The overall number of females represented in the organisation's workforce is small. Harmony is systematically addressing this discrepancy by employing a greater number of women at the underground operations. For details, refer to Employee engagement.

New total incentive plan

We received overwhelming support at our annual general meeting in December 2018 for our new simplified, market-related total incentive plan, comprising a long-term Deferred Share Plan and a short-term annual cash payment (the total incentive plan). This plan has now been implemented with effect from 1 July 2019. Details are provided in Part 1 of this report.

King IV principles

The remuneration committee continues to compare local and global remuneration trends with our remuneration strategy. At the 2018 annual general meeting, the non-binding advisory vote on the remuneration policy was supported by 99% of the votes exercised on the resolution. Considering that 81% of the total issued shares of the company were voted on the resolution, the remuneration committee is satisfied with shareholders' support of this very important aspect of the business.

We were particularly pleased that our new total incentive plan was well received. The committee is satisfied that the remuneration policy has achieved its stated objectives for the year. For more on the committee and its activities during the year under review, see the section on Corporate governance in this report.

More than 25% of the voting rights exercised at the 2018 annual general meeting voted against the implementation report. In terms of King IV and paragraph 3.84(k) of the JSE Listings Requirements, the remuneration committee, in good faith and with the best reasonable effort, engaged with its shareholders to ascertain the reasons for the dissenting votes. Shareholders raised concerns about the number of fatalities during the year under review, the company's share price performance, the absence of dividends as well as insufficient disclosure relating to personal performance indicators. The company responded to all the shareholders who participated in the engagement individually. Steps taken to address all the concerns raised are addressed in Part 2 of this report.

No member of the committee has a personal interest in the outcome of decisions made during the period under review and four of its five members are independent non-executive directors. The chairman of the board is not a member of the committee.

Use of consultants and their independence

We employed the services of consultants PwC and the legal firm Bowmans during the year for independent and objective advice on remuneration trends and legal matters.

Statement on effectiveness of policy

We are comfortable that our policy has achieved its objectives and we are confident that the new total incentive plan will further enhance our company performance and support our growth objectives.

In closing

Our full remuneration policy can be found at www.harmony.co.za/remuneration policy. We value our shareholder comments and, as always, invite our shareholders to engage with the company through the office of the company secretary (companysecretariat@harmony.co.za). I remain grateful to the Board, remuneration committee members and executive directors for their support and commitment during 2019.

Vishnu Pillay

Chairman: Remuneration committee

24 October 2019

PART 1: REMUNERATION POLICY

Harmony's reward strategy underpins our business strategy of safely producing profitable ounces, increasing our margins and expanding our production base through organic growth and acquisitions. In order to achieve this, we rely on experienced, skilled teams who live our values and maintain stakeholder relationships to grow profits safely and maintain a sustainable company.

Our remuneration policy has been designed with our business strategy in mind – to attract and retain these experienced, skilled teams, and to motivate them to deliver and achieve our key business goals. To ensure that this happens, we need to be certain that all elements of our remuneration and wider reward offerings are aligned, fair and market competitive. In determining remuneration, the remuneration committee takes into account shareholders' interests as well as the financial health and future of the company.

GENDER AND RACE EQUALITY

Harmony's remuneration policy is to remunerate based on an individual's ability, skills and knowledge. Men and women, irrespective of their race, are paid equally for equivalent roles. There is no differentiation in remuneration based on gender, race or any arbitrary factor.

FAIR AND RESPONSIBLE PAY

Harmony is committed to the concept of a "living wage", which is based on the philosophy of fair and responsible pay. It embodies our efforts to improve the lives of our employees by enabling them to improve their living conditions, and to have better access to social services, healthcare, and education and training. For more information, refer to *Employee Relations* and *Socio-economic development*.

TOTAL INCENTIVE PLAN

The total incentive is determined every year on the following basis:

TOTAL INCENTIVE (R) = **Guaranteed pay (R)** × **Participation factor (%)** × **Balanced scorecard result (%)**

The balanced scorecard result includes a number of key short- and long-term company performance measures (to be measured over trailing three- and one-year periods). The measures are reviewed and defined annually with appropriate weightings. The scorecard for FY20 is detailed on page 125 of this report.

A portion of the total incentive is paid immediately in cash and the balance is settled by means of deferred shares, which will vest at a rate of 20% per annum over the following five years for the executive directors and prescribed officers, and one-third per annum over the following three years for management.

Each element of the total incentive plan is described in the detail below.

ELEMENT	DESCRIPTION	
Guaranteed pay	Guaranteed pay, which is inclusive of contributions by the company to a retirement fund and a medical aid scheme, is aligned with similar roles in the market sector in which we operate and the contribution made by employees. Guaranteed pay excludes short- and long-term incentives. To compete effectively for skills in a challenging employment market, we identify the target market to use in benchmarking guaranteed pay. This target market includes organisations or companies that employ similar skills sets to those we require. Comparisons are made predominantly within the mining sector to ensure that Harmony remains competitive. The median of the target market is used as the basis of our pay ranges.	
Participation factor	Employee	% guaranteed pay
	Chief executive officer	250%
	Chief financial officer, other executive directors and prescribed officers	230%

ELEMENT		DESCRIPTION	
Balanced scorecard result	Cash portion of the total incentive (40%)	A portion of the total incentive is settled in cash immediately when the balanced scorecard results for the financial year have been determined and approved by the board.	
		Cash portion (balance settled in deferred shares)	% of incentive
		Chief executive officer	40%
		Chief financial officer, other executive directors and prescribed officers	40%
	Deferred share portion of the total incentive (60%)	The balance of the total incentive is settled in deferred shares vesting at a rate of 20% per annum over the next five years for the executive directors and prescribed officers, and one-third per annum over the following three years for management. The deferred share plan was approved by our shareholders at the annual general meeting held in December 2018. A copy of the plan is available on our website at www.harmony.co.za.	

FY20 balanced scorecard

	Scorecard component	Group (%)	South Africa operations (%)	South-East Asia operations (%)
Shareholder value	Total shareholder return (absolute)	8.34	6.67	6.67
	Total shareholder return (relative to JSE Gold Index)	8.33	6.67	6.67
	Total shareholder return (relative to FTSE Gold Mines Index)	8.33	6.66	6.66
Financial and operational	Production	20	35	35
	Total production cost (South Africa operations)	12	20	–
	All-in sustaining cost per kg (South-east Asia operations)	3	–	20
	Free cash flow	10	–	–
Growth	Development	–	10	10
	Additions to mineral reserves	10	–	–
	Project execution (for future measurement)	–	–	–
Sustainability	Safety performance: lost-time injury frequency rate	15	15	15
	Environment, social and governance (ESG)	5	–	–
Total		100	100	100

The balanced scorecard will be applied to eligible employees as follows.

- Group: Prescribed officers, executives in the office of the chief executive officer and all off-shaft services operational managers (South Africa)
- South Africa operations: Operational executive managers and all on-shaft operational managers
- South-East Asia operations: Operational executive managers and all operational managers

Details of the FY19 balanced scorecard for the total incentive and the actual performance outcomes are disclosed in the remuneration implementation section (Part 2 of this report).

SCORECARD COMPONENTS

Total shareholder return

Shareholder value is measured as total shareholder return over a trailing three-year period (measurements are generally taken at the end of August). It comprises two components:

- **absolute performance**: which takes into account:
    - o the value of the growth in the company's share price; and
    - o the value of dividends paid
    - o over the measurement period, compared to the company's cost of equity target.
- **relative performance** of the company compared to that of the JSE Gold Index and the FTSE Gold Mines Index over the measurement period.

Production

Means total gold production against the board approved business plan for the year.

Total production cost

Means total cash operating cost and total capital expenditure for the year.

All-in-sustaining cost per kilogram (South-East Asia)

Means all-in-sustaining costs. For purposes of calculating "all-in-sustaining costs", "operating cost" is used as a base and all costs related to sustaining production are incorporated. This includes all sustaining capital expenditure, deferred stripping, overhead costs associated with corporate office structures and services that support operations, local economic development cost and net rehabilitation costs. It excludes the non-cash share based payment charge. To arrive at the all-in-sustaining cost per unit, the sum of these cost metrics is divided by the kilograms of gold sold.

Free cash flow

Means cash flow generated by operations adjusted for exploration capital, dividends and the effect of commodity price and exchange rate changes in excess of 10% (higher or lower).

Development

Development is measured against the board-approved business plan of ongoing capital development - the development of reef and waste metres (South Africa) and waste tonnes (South-East Asia) for the financial year.

Addition to mineral reserves

Addition to mineral reserves through acquisitions and major capital projects is calculated for the financial year.

Safety performance: Lost-time injury frequency rate

The lost-time injury frequency rate will be measured against the board-approved plan.

Environment, social and governance (ESG)

ESG will be measured on the basis of continued inclusion in the FTSE4Good Index as verified by FTSE Russell.

MINIMUM SHAREHOLDING REQUIREMENT

We have encouraged prescribed officers to retain performance shares when they vest and a minimum shareholding requirement was again confirmed in the new total incentive plan to achieve this. The requirement provides that:

- 50% (fifty percent) of the shares which will vest to a prescribed officer shall, immediately prior to the applicable vesting date, be automatically locked up on the terms and in accordance with the minimum shareholding requirement
- the lock-up shall apply for as long as the relevant target minimum shareholding requirement applicable to the prescribed officer has not been met
- a prescribed officer may elect to voluntarily lock up shares that vest in terms of the 2006 share plan in order to meet his target minimum shareholding requirement
- once the relevant target minimum shareholding requirement has been met, any deferred shares which subsequently vest in and are settled to a prescribed officer shall vest and be settled in accordance with the terms of the deferred share plan
- a prescribed officer may elect to voluntarily lock up shares that vest in terms of the 2006 share plan or the deferred share plan even if it results in the lock-up of shares being in excess of the target minimum shareholding requirement – if the locked-up shares exceed the target minimum shareholding requirement, the excess shares will remain in lock-up until the next vesting date (in terms of any relevant Harmony share incentive plans applicable at the time) at which point the excess shares will be released from lock-up and settled in accordance with the terms of the deferred share plan
- a prescribed officer must communicate his election to voluntarily lock up his shares that vest in terms of the 2006 share plan or the deferred share plan before the relevant vesting date

Prescribed officers

The minimum shareholding requirement shall continue to apply to a prescribed officer as long as the prescribed officer remains a prescribed officer.

If a prescribed officer ceases to be employed by the group for any reason, his locked-up shares shall be released from the lock-up on the date of termination of employment.

Target minimum shareholding requirement

The target minimum shareholding requirement is the relevant target minimum shareholding value (expressed in South African rands), which is required to be held by a prescribed officer from time to time pursuant to this minimum shareholding requirement being a minimum of 100% (one hundred percent) of such prescribed officer's cost to company.

Measurement of target minimum shareholding requirement

Each tranche of locked-up shares shall be deemed to have a value for the purposes of determining whether the target minimum shareholding requirement has been met, equal to the one-day volume weighted average price of a share in ZAR as at the date of such lock-up, multiplied by the number of shares to be locked up in such tranche. The aforesaid value shall be increased yearly by the applicable CPI rate for the year.

Any locked-up shares in terms of the 2006 Harmony share plan minimum shareholding requirement shall remain locked up and shall be taken into account for purposes of determining whether the target minimum shareholding requirement has been met.

Trading restriction

Appropriate entries in the relevant register(s) shall be made to record that all of the prescribed officer's shares, which are subject to the lock up, shall be noted by the relevant central securities depository participant in terms of section 39 of the Financial Markets Act and the appropriate flag place on the relevant securities account pursuant to section 39 of the Financial Markets Act.

Voting and dividends

A prescribed officer shall, in respect of his vested shares, which are subject to the lock-up

- exercise all voting rights in respect of such shares
- receive all distributions payable in respect of such shares.

Application to foreign prescribed officer

The target minimum shareholding requirement of the foreign prescribed officer shall be determined on the date on which this minimum shareholding requirement is adopted or first applies to the foreign prescribed officer (whichever occurs first in time). In calculating the target minimum shareholding requirement of the foreign prescribed officer, the company will use the cost to company (in ZAR) of the chief operating officer: South Africa operations.

The ZAR value of any shares that are to be locked up (in terms of this minimum shareholding requirement) shall be determined on the applicable vesting date with reference to

- the share price
- relevant currency exchange rate on the vesting date

In order to determine whether the target minimum shareholding requirement has been satisfied, the pre-tax value of the locked-up shares will be taken into account.

DEFERRED SHARE PLAN LIMIT

The overall limit for deferred shares, issued under the 2018 deferred share plan is 5% of the shares in issue at the time the plan was approved, amounting to 25 000 000 shares. The individual limit is 0.6% amounting to 3 000 000 shares.

HARMONY 2006 SHARE PLAN LIMIT

The plan limit of 60 011 669 shares is only applicable to the 2006 Harmony share plan (the old plan). To date, 39 110 845 of these shares have been issued. No further awards will be made under the old plan (as the old plan is in the process of being "wound down"). It is anticipated that a large number of the unissued shares under the old plan will be used to settle the historic awards when they vest.

HARMONY ESOP TRUST (IT001237/2018(G))

At the special general meeting held on 1 February 2018, the shareholders approved the issue of 6.7 million authorised but unissued ordinary shares to the new Harmony ESOP Trust, more commonly referred to as the Sisonke Trust.

In terms of the allocation criteria in the trust deed, each eligible employee that qualified as an employee beneficiary upon the formation of the trust, or within six months thereafter, received 225 ESOP units which are directly attributable to 225 ESOP Trust shares. Thereafter, ESOP units are allocated on a pro-rata basis depending on the period such persons join/qualify as eligible employees.

The scheme will come to an end after the three-year lock-in period on 15 January 2022. Dividends distributed in respect of the ESOP Trust shares prior to the expiry of the three-year lock-in period, which are attributable to allocated ESOP units, shall immediately vest in the employee beneficiaries' hands. However, the dividends shall be held by the ESOP Trust trustees on behalf of the employee beneficiaries and thereafter be distributed (less any relevant taxes, including dividend withholding tax) to such employee beneficiaries either upon such employee beneficiary's termination of employment (if the employee beneficiary ceases to remain in the employ of Harmony prior to the expiry of the ESOP Trust lock-in period) or upon the expiry of the ESOP Trust lock-in period.

PAY MIX FOR PRESCRIBED OFFICERS

The tables below illustrate the pay mix for prescribed officers, based on achieving minimum, on-target and stretch performance. The composition of total remuneration outcomes for FY19 and FY20 is illustrated below.

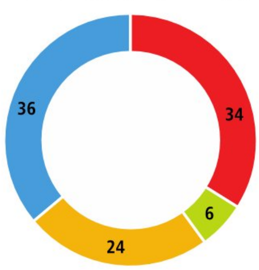
CHIEF EXECUTIVE OFFICER

FY19 and FY20 pay mix*

(R000)	Minimum (%)	On-target (%)	Stretch (%)
Salary benefits	85	85	85
Retirement savings and contributions	15	15	15
Guaranteed pay	**100**	**100**	**100**
Short-term incentive	0	60	100
Long-term incentive	0	90	150
Total remuneration	**100**	**250**	**350**

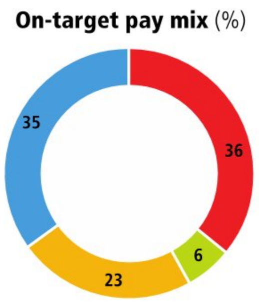
* This remained unchanged for both years.

On-target pay mix (%)



OTHER EXECUTIVES (FINANCIAL DIRECTOR, OTHER EXECUTIVE DIRECTOR AND PRESCRIBED OFFICERS)

FY19 and FY20 pay mix*			
(R000)	**Minimum (%)**	**On-target (%)**	**Stretch (%)**
Salary benefits	85	85	85
Retirement savings and contributions	15	15	15
Guaranteed pay	**100**	**100**	**100**
Short-term incentive	0	55	92
Long-term incentive	0	83	138
Total remuneration	**100**	**238**	**330**

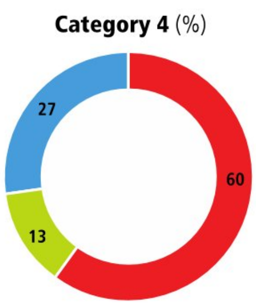


AVERAGE MONTHLY WAGES AND BENEFITS

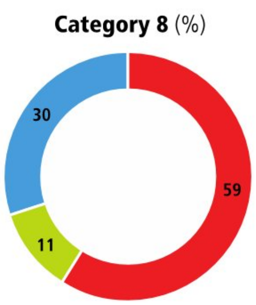
CATEGORY 4-8 EMPLOYEES

FY19 and FY20 policy*		
Total remuneration	**Category 4 (%)**	**Category 8 (%)**
Fixed earnings	60	59
Company benefits	13	11
Guaranteed pay	**73**	**70**
Variable income	27	30
Total remuneration	**100**	**100**

** This remained unchanged for both years*



Pay mix



Each component includes the following:

Fixed earning: Basic pay, service increment, 13th cheque, living out allowance

Variable income: Average overtime, shift allowance, average bonus, meal allowance, Unemployment Insurance Fund/skills development levy, insurance benefit

Company benefits: Employer provident/pension fund and medical aid

NON-EXECUTIVE DIRECTOR FEES

Market comparisons, the fiduciary risks carried by non-executive directors, their workload, time commitments, expertise and preparation expected of each non-executive director are considered when reviewing our non-executive director fees. Harmony's philosophy regarding the remuneration of non-executive directors is to ensure that they are fairly rewarded for their contribution to the company's governance. Non-executive directors' fees are reviewed annually to ensure that they remain fair and competitive.

During September 2019, the remuneration committee considered an industry benchmark of non-executive directors' fees. It was evident that our non-executive director fees lag the market considerably in certain roles and, as recommended by the remuneration committee, the board has proposed increases in excess of inflation over a three year period for certain roles intended to bring the overall non-executive director fees for the company in line with the market median. The board is of the opinion that market-competitive fees are important to be able to retain directors with the skills and experience required.

In line with the recommendations of King IV, our non-executive directors are paid a retainer for board meetings and an attendance fee for every board meeting attended. Non-executive directors also receive a retainer for serving on a committee. In addition, a per-day ad hoc fee is paid for special meetings or attending to company business.

Non-executive directors do not receive share options or other incentive awards correlated with the share price or group performance as these may impair their ability to provide impartial oversight and advice. The proposed fees for FY20 are set out in the notice of annual general meeting in the *Report to shareholders 2019.*

Performance of management

The personal performance of employees will not be taken into account in the determination of the total incentive plan outcome. Harmony follows a team-based balanced scorecard approach in determining incentive awards. All management employees are assessed every year against set key performance indicators which are used to guide the development and promotion of such employees.

For more information on the assessment of the performance of the chief executive officer, please refer to *Corporate governance*.

Contracts, severance and termination

Executive directors and executive managers have employment contracts with Harmony, which include notice periods of up to 90 days. There are no balloon payments on termination, automatic entitlement to bonuses or automatic entitlement to share-based payments other than in terms of the company's approved share incentive plans.

Malus and clawback

Malus is the forfeiture of a variable pay award before it vests or is settled, and clawback refers to a requirement to repay some or all of an award after it has vested or is settled.

The remuneration committee has a discretion to determine that a prescribed officer's or executive manager's total share plan award is subject to reduction, forfeiture or clawback (in whole or in part) if:

- there is reasonable evidence of misbehaviour or material error by a prescribed officer or executive manager (as the case may be) or
- the financial performance of the group, the company, the employer company or the relevant business unit for any financial year, used to determine an award, have subsequently appeared to be materially inaccurate or
- the group, the company, the employer company or the relevant business unit suffers a material downturn in its financial performance for which the prescribed officer or executive manager (as the case may be) can be seen to have some liability or
- the group, the company, the employer company or the relevant business unit suffers a material failure of risk management for which the prescribed officer or executive manager (as the case may be) can be seen to have some liability or in any other circumstances if the remuneration committee determines that it is reasonable to subject the awards of one or more prescribed officers or executive managers (as the case may be) to reduction or forfeiture

Procedures to impose any malus or clawback provisions must be initiated within three years of the award. To eliminate doubt, the provisions of this malus and clawback policy do not detract from any other legal rights or measures the company has as recourse for acts of fraud, wrongdoing and/or negligence by its prescribed officers or executive management.

Non-binding advisory votes

Shareholders are requested to cast non-binding advisory votes required by King IV on Part 1 and Part 2 of this remuneration report. For more information, refer to the notice of the annual general meeting. In the event that either the remuneration policy or the implementation report or both are voted against by 25% or more of the voting rights exercised at the 2019 annual general meeting, the committee will in good faith and with the best reasonable effort engage with its shareholders to ascertain the reasons for the dissenting votes and appropriately address legitimate and reasonable objections and concerns raised, which may include amending the remuneration policy or clarifying or adjusting the company's remuneration governance and/or processes.

Shareholder feedback

We maintain open communication channels with our shareholders, listen to feedback and take action where this is deemed to be in the best interests of the company.

PART 2: REMUNERATION IMPLEMENTATION REPORT ON THE POLICY APPLICABLE IN FY19

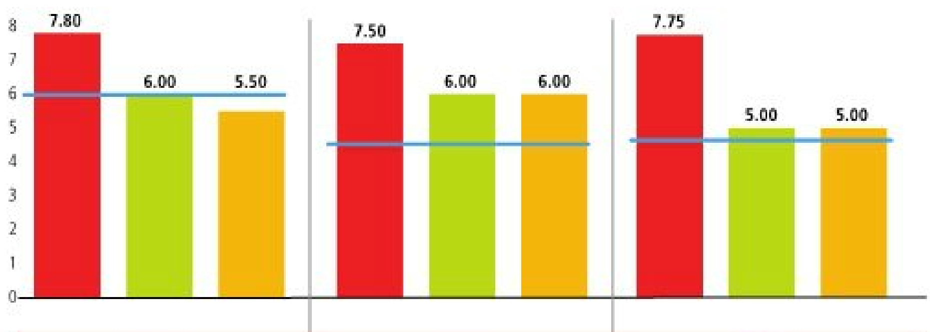
This section of the report includes details of the implementation and outcomes of the remuneration policy for FY19. We report on increase in guaranteed packages, the performance outcomes for the total incentive plan and for the 2015 performance shares vesting based on the three-year performance period ending this year.

We have also included the disclosure of the total single figure of remuneration, the schedule of unvested awards and cash flows for the executive directors and prescribed officers in line with the applicable King IV requirements, and with the guidance statement from the Institute of Directors and the South African Reward Association. The remuneration of the non-executive directors is disclosed as required by King IV and the Companies Act.

INCREASES TO GUARANTEED PACKAGES DURING THE YEAR

An assessment of executive remuneration was undertaken during the year. Taking into consideration the prevailing market conditions, affordability and shareholders' expectations, an average increase of 5% to guaranteed remuneration packages of management was made during the 2019 financial year. The average percentage increases awarded to executives, management and unionised staff during the 2017, 2018 and 2019 financial years are illustrated in the accompanying graph.

Annual increases (%)



	FY17	FY18	FY19
Unionised staff (July every year)	7.80	7.50	**7.75**
Management (January every year)	6.00	6.00	**5.00**
Executives (August every year)	5.50	6.00	**5.00**
Consumer price index	6.05	4.53	**4.64**

PAY FAIRNESS AND EQUALITY

In the 2019 financial year, an average increase of 5% in guaranteed remuneration packages for management and executives and 7.75% for unionised employees was approved. Unionised employees have consistently received above-inflation increases for the past six years. The average total monthly remuneration of our category 4-8 employees is tabulated in the accompanying table. We continue to focus on remuneration of our employees at this level to address the challenges of inequality and poverty.

Grade	Fixed earnings (R)	Company benefits (R)	Variable income (R)	Total per month (R)
Category 4 underground employee (general worker)	12 441	2 592	5 614	20 647
Category 8 underground employee (team leader)	16 511	3 154	8 454	28 119

Refer to *Employee Relations* for more information.

INCENTIVE PAYMENTS ATTRIBUTABLE TO FY19

Total incentive plan

The new total incentive plan was implemented with effect from 1 July 2019, based on the FY19 scorecard for the period 1 July 2018 to 30 June 2019. First awards under the new total incentive plan were made in September 2019.

FY19 scorecard result for the group

Scorecard component		Group weighting (%)	% of plan achieved	Final outcome (%)
Shareholder value (measured over a trailing three-year period)	Total shareholder return (absolute)	8.34	0	0
	Total shareholder return (relative to the JSE Gold Index)	8.33	0	0
	Total shareholder return (relative to FTSE Gold Mines Index)	8.33	0	0
Financial and operational	Production	20	97	9.7
	Total production cost (South Africa operations)	12	96	5.2
	All-in sustaining cost (Southeast Asia operations)	3	103.7	2.7
	Free cash flow	10	84	4.9
Growth	Development (only applicable to South Africa operations and Southeast Asia operations)	–	–	–
	Additions to mineral reserves	10	100	10
	Project execution (for future measurement)	–	–	–
Sustainability	Safety performance: Lost-time injury frequency rate*	15	101	–
	Environment, social and governance (ESG) criteria	5	100	5
Total		100		37.5

* Improved but forfeited due to the number of fatal accidents during financial year

As part of the phasing-in process, the board agreed to make a cash advance for the six months ending December 2018. Employees are accustomed to a six-monthly, short-term incentive scheme and, by agreeing to the cash advance, the board ensured that employees received sufficient notice of the change to an annual total incentive plan. The FY19 total incentive award calculated in September 2019, in terms of the new total incentive plan's balanced scorecard, was reduced with the amount of the cash advance. The outcome of the award, under the FY19 scorecard, less the cash advance is calculated as follows:

FY19 total incentive award calculation

TOTAL INCENTIVE (R) = Guaranteed pay (R) × Participation factor (%) × Balanced scorecard result (%)

REVISED TOTAL INCENTIVE FY19* (R) = Total incentive (R) – Cash advance (R)

* Please refer to the table on total single figure remuneration on page 134.

Long-term incentive

No further long-term incentive award of performance shares was made in FY19 due to the phasing in of the new total share incentive scheme.

VESTING OF LONG-TERM INCENTIVES DURING THE YEAR UNDER REVIEW

During the year, the following awards, in terms of the long-term incentive plan, vested in November 2018.

Share appreciation rights allocated in November 2012

The performance condition determined that the headline earnings per share growth from the allocation date should exceed the consumer price index. The performance condition has not been met and all rights have been forfeited and lapsed.

Share appreciation rights allocated in November 2014

The 2014 allocation vested in November 2017 and can be exercised in equal thirds on the subsequent anniversaries of the vesting. The 2014 allocation will lapse on 15 November 2020. The value or reward that accrues is based on the positive appreciation of the share price over time.

Performance shares awarded in November 2015

The vesting percentage of performance shares was based on the total shareholder return of the company, comprising of two components: absolute and relative performance over the full three-year period. This resulted in a total vesting of 100% of performance shares awarded in November 2015.

REMUNERATION OF EXECUTIVE DIRECTORS AND PRESCRIBED OFFICERS

Total single figure remuneration

Executive director and prescribed officer remuneration, in terms of total single figure remuneration, as required by King IV and in line with the guideline note issued by the Institute of Directors South Africa and the South African Reward Association, is detailed below.

Remuneration paid for the year ended 30 June 2019 (R000)

	Salary and benefits	Retirement savings and contributions	**Total incentive cash portion accrued	Total incentive deferred share portion accrued	Total single figure of remuneration	Less: amount accrued not settled in FY19	Plus: amount of previous accruals settled in FY19	Total cash remuneration
Executive directors								
PW Steenkamp	8 023	1 373	5 154	3 649	18 199	(6083)	3 811	15 927
F Abbott	5 688	620	3 257	2 157	11 722	(3595)	2 547	10 674
HE Mashego	4 012	573	2 350	1 557	8 492	(2594)	1 838	7 736
Prescribed officers								
Beyers Nel	4 532	748	2 562	1 546	9 388	(2577)	2 144	8 955
Phillip Tobias	4 682	615	2 741	1 815	9 853	(3026)	2 144	8 971
Johannes van Heerden*	6 566	254	3 825	2 885	13 530	(4785)	2 693	11 438

* *Salary is paid in AUS$ and is influenced by the movement in the exchange rate*

*** Total incentive cash portion includes the cash advance (see page 132) plus the 40% cash portion of the revised incentive total for FY19*

Remuneration paid for the year ended 30 June 2018 (R000)

	Salary and benefits	Retirement savings and contributions	Total incentive cash portion accrued	Total incentive deferred share portion accrued	Total single figure of remuneration	Less: amount accrued not settled in FY19	Plus: amount of previous accruals settled in FY19	Total cash remuneration
Executive directors								
PW Steenkamp	7 656	1 291	8 463	0	17 410	(3811)	1 317	14 916
F Abbott	5 404	571	5 643	3 886	15 504	(6035)	880	10 349
HE Mashego	3 951	533	4 082	2 912	11 478	(1838)	635	10 275
Prescribed officers								
Beyers Nel	4 741	696	4 257	1 421	11 115	(2756)	741	9 100
Phillip Tobias	4 495	574	4 761	1 531	11 361	(2909)	741	9 193
Johannes van Heerden*	6 104	249	5 322	2 894	14 569	(2693)	910	12 786

** Salary is paid in AU$ and is influenced by the movement in the exchange rate*

The company changed its long-term incentive from performance share awards to deferred shares as part of the new total incentive plan. As a result, transitional arrangements have been applied for the total single figure of remuneration, as provided for in paragraph 1.9 of the King IV Guidance to the application of Remuneration Governance, published by the Institute of Directors and the South African Reward Association. In line with this guidance, the value of the 2015 performance shares which would normally be reflected as long-term incentive income in 2019 will be reflected as 'cash on settlement' in the table of unvested awards on pages 134 to 137, and the value accrued for the 2019 deferred shares awarded in terms of the new total incentive plan will be reflected as long-term incentive income for 2019.

Schedule of unvested awards and cash flows

A schedule of the unvested awards and cash flows from long-term incentive awards of the executive directors and prescribed officers, as required by King IV and in line with the guideline note issued by the Institute of Directors South Africa and the South African Reward Association, is provided below.

Unvested awards and cash flows for FY19

Executive directors	**Share award**	**Award Date**	**Vesting Date**	**Award Price (R)**	**Opening**	**Awarded**	**Number Forfeited**	**Settled**	**Closing**	**Cash on Settlement (R)**	**Year–end Fair Value (R)**
Peter Steenkamp	Performance Shares										
	Feb 2016 Performance Shares*	Feb-16	Feb-19	35.52	512 000		–	512 000		–	–
	2016 Performance Shares	Nov-16	Nov-19	32.12	420 423		–	–	420 423	–	12 053 527
	2017 Performance Shares	Nov-17	Nov-20	24.00	596 427		–	–	596 427	–	17 099 562
	Vested Awards Pledged towards MSR										
	2016 Performance Shares Pledge*	Feb-19				512 000	–	–	512 000	–	14 679 040
	Total				**1 528 850**	**512 000**	**–**	**512 000**	**1 528 850**	**–**	**43 832 130**

Unvested awards and cash flows for FY19

Executive directors	Share award	Award Date	Vesting Date	Award Price (R)	Opening	Awarded	Number Forfeited	Settled	Closing	Cash on Settlement (R)	Year–end Fair Value (R)
Frank Abbott	Share appreciation rights (SARs)										
	2012 SARs	Nov-12	Nov-15	68.84	16 204		16 204	–	–	–	–
	2013 SARs tranche 1	Nov–13	Nov–16	33.18	17 650		–	–	17 650	–	–
	2013 SARs tranche 2	Nov–13	Nov–17	33.18	17 650		–	–	17 650	–	–
	2013 SARs tranche 3	Nov–13	Nov–18	33.18	17 651		–	–	17 651	–	–
	2014 SARs tranche 1	Nov–14	Nov–17	18.41	21 207		–	–	21 207	–	217 584
	2014 SARs tranche 2	Nov–14	Nov–18	18.41	21 207		–	–	21 207	–	217 584
	2014 SARs tranche 3	Nov–14	Nov–19	18.41	21 208		–	–	21 208	–	217 594
	Performance Shares										
	2015 Performance Shares	Nov–15	Nov–18	10.16	736 809		–	736 809	–	16 858 190	–
	2016 Performance Shares	Nov–16	Nov–19	32.12	330 833		–	–	330 833	–	9 484 982
	2017 Performance Shares	Nov–17	Nov–20	24.00	489 890		–	–	489 890	–	14 045 146
	Restricted Shares										
	2012 Restricted Shares (Further Restricted)	Nov–12	Nov–18	68.84	21 136		–	21 136	–	483 592	–
	2015 Matched Restricted Shares	Nov–15	Nov–18	10.16	63 408		–	63 408	–	1 450 775	–
	Vested Awards Pledged towards MSR										
	2013 Performance Shares Pledge				84 952				84 952		2 435 574
	2014 Performance Shares Pledge				141 075				141 075		4 044 620
	Total				**2 000 880**	**–**	**16 204**	**821 353**	**1 163 323**	**18 792 557**	**30 663 084**

*The February 2016 award for Peter Steenkamp vested in February 2019 and was settled/pledged towards MSR with no cash settlement

Executive directors continued	Share award	Award Date	Vesting Date	Award Price (R)	Opening	Awarded	Number Forfeited	Settled	Closing	Cash on Settlement (R)	Year–end Fair Value (R)
Mashego Mashego	Share appreciation rights (SARs)										
	2012 SARs	Nov-12	Nov-15	68.84	11 694		11 694	–	–	–	–
	2013 SARs tranche 1	Nov-13	Nov-16	33.18	12 737		–	–	12 737	–	–
	2013 SARs tranche 2	Nov-13	Nov-17	33.18	12 737		–	–	12 737	–	–
	2013 SARs tranche 3	Nov-13	Nov-18	33.18	12 738		–	–	12 738	–	–
	2014 SARs tranche 1	Nov-14	Nov-17	18.41	15 304		–	–	15 304	–	157 019
	2014 SARs tranche 2	Nov-14	Nov-18	18.41	15 304		–	–	15 304	–	157 019
	2014 SARs tranche 3	Nov-14	Nov-19	18.41	15 305		–	–	15 305	–	157 029
	Performance Shares										
	2015 Performance Shares	Nov-15	Nov-18	10.16	455 758		–	455 758	–	10 427 743	–
	2016 Performance Shares	Nov-16	Nov-19	32.12	152 091		–	–	152 091	–	4 360 449
	2017 Performance Shares	Nov-17	Nov-20	24.00	251 722		–	–	251 722	–	7 216 870
	Restricted Shares										
	2012 Restricted Shares (Further Restricted)	Nov-12	Nov-18	68.84	11 694		–	11 694	–	267 559	–
	2015 Matched Restricted Shares	Nov-15	Nov-18	10.16	35 082		–	35 082	–	802 676	–
	Total				**1 002 166**	**–**	**11 694**	**502 534**	**487 938**	**11 497 978**	**12 048 386**

Prescribed officers	Share award	Award Date	Vesting Date	Award Price (R)	Opening	Awarded	Number Forfeited	Settled	Closing	Cash on Settlement (R)	Year–end Fair Value (R)
Beyers Nel	Share appreciation rights (SARs)										
	2012 SARs	Nov-12	Nov-15	68.84	8 021		8 021	–	–	–	–
	2013 SARs tranche 1	Nov-13	Nov-16	33.18	8 820		–	–	8 820	–	–
	2013 SARs tranche 2	Nov-13	Nov-17	33.18	8 820		–	–	8 820	–	–
	2013 SARs tranche 3	Nov-13	Nov-18	33.18	8 819		–	–	8 819	–	–
	2014 SARs tranche 1	Nov-14	Nov-17	18.41	12 493		–	–	12 493	–	128 178
	2014 SARs tranche 2	Nov-14	Nov-18	18.41	12 493		–	–	12 493	–	128 178
	2014 SARs tranche 3	Nov-14	Nov-19	18.41	12 494		–	–	12 494	–	128 188
	Performance Shares										
	2015 Performance Shares	Nov-15	Nov-18	10.16	236 220		–	236 220	–	5 404 714	–
	2016 Performance Shares	Nov-16	Nov-19	32.12	177 366		–	–	177 366	–	5 085 083
	2017 Performance Shares	Nov-17	Nov-20	24.00	318 487		–	–	318 487	–	9 131 022
	Restricted Shares										
	2012 Restricted Shares (Further Restricted)	Nov-12	Nov-18	68.84	8 021		–	8 021	–	183 520	–
	2015 Matched Restricted Shares	Nov-15	Nov-18	10.16	24 063		–	24 063	–	550 561	–
	Vested Awards Pledged towards MSR										
	2014 Performance Shares Pledge				24 933		–	–	24 933	–	714 829
	Total				**861 050**	**–**	**8 021**	**268 304**	**584 725**	**6 138 796**	**15 315 479**

Prescribed officers continued	Share award	Award Date	Vesting Date	Award Price (R)	Opening	Awarded	Number Forfeited	Settled	Closing	Cash on Settlement (R)	Year–end Fair Value (R)
Phillip Tobias	Share appreciation rights (SARs)										
	2013 SARs tranche 1	Nov-14	Nov-17	18.41	15 617		–	–	15 617	–	160 230
	2013 SARs tranche 2	Nov-14	Nov-18	18.41	15 617		–	–	15 617	–	160 230
	2013 SARs tranche 3	Nov-14	Nov-19	18.41	15 616		–	–	15 616	–	160 220
	Performance Shares										
	2015 Performance Shares	Nov-15	Nov-18	10.16	236 220		–	236 220	0	5 404 714	–
	2016 Performance Shares	Nov-16	Nov-19	32.12	177 366		–	–	177 366	–	5 085 083
	2017 Performance Shares	Nov-17	Nov-20	24.00	324 720		–	–	324 720	–	9 309 722
	Vested Awards Pledged towards MSR										
	2014 Performance Shares Pledge				31 166		–	–	31 166	–	893 529
	Total				**816 322**	**–**	**–**	**236 220**	**580 102**	**5 404 714**	**15 769 016**

Prescribed officers continued	Share award	Award Date	Vesting Date	Award Price (R)	Opening	Awarded	Number Forfeited	Settled	Closing	Cash on Settlement (R)	Year–end Fair Value (R)
Johannes van Heerden	Share appreciation rights (SARs)										
	2012 SARs	Nov-12	Nov-15	68.84	11 694		11 694	–	–	–	–
	2013 SARs tranche 1	Nov-13	Nov-16	33.18	12 737		–	–	12 737	–	–
	2013 SARs tranche 2	Nov-13	Nov-17	33.18	12 737		–	–	12 737	–	–
	2013 SARs tranche 3	Nov-13	Nov-18	33.18	12 738		–	–	12 738	–	–
	2014 SARs tranche 1	Nov-14	Nov-17	18.41	15 304		–	15 304	–	188 698	–
	2014 SARs tranche 2	Nov-14	Nov-18	18.41	15 304		–	15 304	–	183 036	–
	2014 SARs tranche 3	Nov-14	Nov-19	18.41	15 305		–	–	15 305	–	157 029
	Performance Shares										
	2015 Performance Shares	Nov-15	Nov-18	10.16	455 758		–	455 758	–	10 427 743	–
	2016 Performance Shares	Nov-16	Nov-19	32.12	152 091		–	–	152 091	–	4 360 449
	2017 Performance Shares	Nov-17	Nov-20	24.00	293 554		–	–	293 554	–	8 416 193
	Restricted Shares										
	2012 Restricted Shares (Further Restricted)	Nov-12	Nov-18	68.84	11 694		–	11 694	–	267 559	–
	2015 Matched Restricted Shares	Nov-15	Nov-18	10.16	35 082		–	35 082	–	802 676	–
	Total				**1 043 998**	**—**	**11 694**	**533 142**	**499 162**	**11 869 712**	**12 933 671**

NON-EXECUTIVE DIRECTORS' FEES

On the recommendation of the remuneration committee, the board proposed an increase in fees of 6% for all non-executive directors, which was approved at the annual general meeting held in November 2018. Non-executive director fees paid during FY19 are included in the table below:

Director (R000)	Note	2019 Fee (1)	2018 Fee (1)
Dr Patrice Motsepe		1 365	1 288
Joachim Chissano		570	489
Fikile De Buck		1 486	1 255
Ken Dicks		769	653
Dr Simo Lushaba		1 153	817
Grathel Motau	2	79	–
Modise Motloba		1 406	1 399
Mavuso Msimang		960	660
Karabo Nondumo		969	762
Vishnu Pillay		1 096	803
Given Sibiya	3	79	–
Max Sisulu		508	125
John Wetton		1 031	1 053
André Wilkens		971	870
Total		**R12 442**	**R10 174**

Notes
1. Directors' remuneration excludes value-added tax
2. Appointed non- executive director on 13 May 2019
3. Appointed non-executive director on 13 May 2019

ENGAGEMENT WITH SHAREHOLDERS ON HARMONY'S FY18 IMPLEMENTATION REPORT

More than 25% of the voting rights exercised at the 2018 annual general meeting voted against the FY2018 implementation report. In terms of King IV and paragraph 3.84(k) of the JSE Listings Requirements, the remuneration committee, in good faith and with the best reasonable effort, engaged with its shareholders to ascertain the reasons for the dissenting votes.

A summary of the feedback and key concerns raised by shareholders is highlighted below.

Shareholder feedback	Harmony's response
Shareholders raised concerns about the number of fatalities during the year under review. This should have resulted in a reduced rather than increased bonus score in FY18.	Safety represents a key component of the new Harmony total incentive plan. A weighting of 15% has been attributed to the company's performance with regard to its lost-time injury frequency rate during the reporting period. A lost-time injury is defined as "any injury sustained by an employee while on the job that prevents them from being able to perform their job for at least one day/shift". Harmony includes the number of fatalities in its lost-time injury frequency rate calculation. We deem any fatality in the company as totally unacceptable hence we find it inappropriate to attribute a target specific to fatalities. The board, under guidance from the remuneration committee, will exercise discretion in this regard as is evident from the outcome of the FY19 scorecard result.
Information on personal performance is insufficient.	Included in the remuneration report Part 1.
Concerns were raised that management increases and bonuses were paid when the company stopped paying dividends and the share price performed poorly.	Harmony is pursuing a growth strategy which has resulted in our production having increased by approximately 30% over the past two years. This increase in production was predominantly financed through debt. Our priority is to reduce debt before we consider paying a dividend. Please refer to the Chairman's letter included elsewhere in the report for a discussion about the company's share price.

AUDIT AND RISK COMMITTEE: CHAIRMAN'S REPORT

"Harmony is committed to the highest standards of corporate governance and accountability"

Harmony's audit and risk committee (the committee) is pleased to present its report for the financial year ended 30 June 2019 (FY19). This report addresses various material issues beyond compliance with the statutory requirements relating to an audit committee.

INTRODUCTION

The committee is an independent statutory committee appointed by Harmony's shareholders. In compliance with section 94 of the Companies Act of 2008 (the Act) and the principles of good governance, shareholders annually appoint certain independent directors as members of the audit committee to fulfil the statutory duties as prescribed by the Act.

In addition, Harmony's board of directors (the board) delegates specific oversight functions to the committee.

This report considers these statutory and delegated duties as well as the committee's responsibilities in terms of the JSE Listings Requirements. It also addresses some of the matters that the King IV Code on Corporate Governance, 2016 (King IV) advises should be considered by an audit committee.

Terms of reference

The committee has formal terms of reference, which are reviewed and updated annually as necessary (or more frequently if required) by both the committee and the board. The committee is satisfied that it has conducted its affairs in accordance with its terms of reference and has discharged its responsibilities.

The committee's terms of reference can be accessed at our corporate website, www.harmony.co.za.

Composition and function

The committee's diverse perspectives, independence, knowledge and experience increase the value of Harmony's governance structures. For details of the qualifications, expertise and experience of the members of the audit and risk committee, refer to *Board of directors*.

Recommendations for the appointment of members to the committee for the new financial year can be found in the notice of annual general meeting in the *Report to shareholders 2019* that accompanies the annual financial statements.

The group chief executive officer, the financial director, the executive: special projects, the executive: ore reserves, the group IT manager, the external auditors, the chief audit executive and other assurance providers attend meetings either by standing invitation or as and when required.

As at the date of this report, the committee comprised the following independent members:

Name	Status	Date appointed
Fikile De Buck (chairman)	Independent non-executive director	30 March 2006 (Chairman with effect from 10 May 2018)
John Wetton	Independent non-executive director	1 July 2011
Dr Simo Lushaba	Independent non-executive director	24 January 2003
Karabo Nondumo	Independent non-executive director	3 May 2013
Given Sibiya	Independent non-executive director	15 August 2019

Roles and responsibilities

The committee is satisfied that it complied with its legal, regulatory and other responsibilities during the past financial year. The committee's primary objective is to assist the board with its responsibilities of ensuring the integrity of financial statements, the management of risk and cyber security, as well as the safeguarding of assets. Additionally, the committee is mandated to provide oversight of financial control and reporting on internal controls, shareholder reporting and corporate governance, particularly relating to legislative and regulatory compliance.

The committee's roles and responsibilities include statutory and regulatory duties as per the Act, the JSE Listings Requirements and those items recommended in the interest of good governance according to King IV. In addition, the board has assigned other ad hoc duties to the committee, embodied in its terms of reference.

The board conducts annual reviews of the committee's duties and terms of reference as well as annual assessments of its performance, in a manner determined by the board.

No major concerns were raised by any member of the committee in FY19.

For more on the committee and its activities during the year under review, see *Corporate governance*.

The integrated annual report

The committee is responsible for overseeing the group's integrated annual report and the reporting process. This integrated annual report, which has been reviewed by the committee, focuses not only on the group's financial performance, but also its economic, social and environmental performance. This report sets out how the group has engaged with stakeholders, addressed its material issues and governed its business. The committee is satisfied with the quality and integrity of the information contained in the integrated annual report 2019 and recommended it to the board for approval.

Annual report filed on Form 20-F with the United States Securities and Exchange Commission

The committee has reviewed the annual report filed on Form 20-F for the year ended 30 June 2019 and recommended the report to the board for approval.

Annual financial statements and accounting practices

The committee reviewed the audited annual financial statements and summarised consolidated financial statements for the year ended 30 June 2019. The statements comply with International Financial Reporting Standards and no significant matters were identified by the committee in that regard. The committee submits that they present a balanced view of the group's performance for the period under review.

The committee considered the JSE's most recent report back on proactive monitoring of financial statements, and where necessary those of previous periods, and has taken appropriate action where necessary to respond to the findings as highlighted in the JSE report when preparing the annual financial statements.

The committee recommended the annual financial statements and summarised consolidated financial statements to the board for approval.

External auditor appointment and independence

The committee is satisfied that the external auditor, PricewaterhouseCoopers (PwC), is independent of the group, as set out in section 94(8) of the Act. This opinion is based on consideration of previous appointments of the auditor and the extent of other work the auditor has undertaken for the group. In a written statement addressed to the committee, PwC confirmed that their independence complies with criteria relating to independence or conflicts of interest as prescribed by the Independent Regulatory Board for Auditors, the Public Company Accounting Oversight Board and the Securities and Exchange Commission. Requisite assurance was sought and provided by the auditor that internal governance processes within the audit firm support and demonstrate its independence.

The committee ensured that the appointment of the auditor complies with the requirements of the Act and other applicable legislation relating to the appointment of auditors. The committee, in consultation with management, agreed to the engagement letter and terms, and to the audit plan as well as scope of work performed and budgeted audit fees for the 2019/20 year.

A formal procedure has been adopted to govern the process whereby the external auditor may be considered for non-audit services and the extent of these services is closely monitored by the committee.

Fees paid to the external auditor for the year were R37 million, of which R35 million was for audit related services, R1 million for non-audit services and R1 million for tax services.

Tenure of the audit firm

PwC has been the group's external auditor for 69 years. At the annual general meeting held on 7 December 2018, PwC was reappointed as the independent external auditor and undertook to hold office until the conclusion of the 2019 annual general meeting.

The committee considered the suitability of PwC and designated audit partner as required by paragraph 3.84(g) (iii) of the JSE Listings Requirements and found same to be adequate based on PwC's submission of the relevant information as required by paragraph 22.15 (h) of the JSE Listings Requirements.

The individual registered auditor responsible for the audit for the financial year ended 30 June 2019 was Mr HP Odendaal. As PwC is required to rotate the audit partner responsible for the group audit every five years, the current lead audit partner will be required to change from FY21 onwards.

As part of Harmony's commitment to transformation, PwC continued to partner with Ngubane & Co., a black audit firm, as part of the PwC engagement team. To facilitate the transfer of skills in the audit of mining companies and SEC registrants, Ngubane & Co. assisted PwC on the audit of Harmony's South African operations. PwC had overall responsibility for the audit and signed off the financial statements. Ngubane & Co. is a level 1 broad-based black economic empowerment company.

The committee has recommended to the board that PwC be re-appointed as the group's independent external auditor, to hold office until the conclusion of the 2020 annual general meeting.

The directors will propose the re-appointment of PwC at the annual general meeting to be held on 22 November 2019. Details can be found in the notice of the annual general meeting in the Report to shareholders 2019 that accompanies the annual financial statements.

Mandatory audit firm rotation is effective from financial years commencing on or after 1 April 2023 and is applicable to listed companies, as well as all public interest entities, to promote superior audit quality and audit independence. To ensure continuity during the company's growth phase and because audit firm rotation is not yet compulsory, the audit and risk committee is of the opinion that PwC should remain as the company's external auditor for the ensuing year.

Internal controls

The committee considers significant control deficiencies raised by management and by the internal and external auditors, and reports its findings to the board. Where weaknesses are identified, the committee ensures that management takes appropriate action.

Based on a review of the design, implementation and effectiveness of the group's system of internal financial controls conducted by the internal audit function during the year under review, and on reports made by the independent external auditors on the results of their audit and management reports, the committee is satisfied that the company's system of internal financial controls is effective and forms a basis for the preparation of reliable financial statements. No findings have come to the attention of the committee to indicate that any material breakdown in internal controls occurred during the past financial year.

Internal audit

In accordance with the requirements of King IV, the committee confirms that, having considered the effectiveness of the chief audit executive, Ms Besky Maluleka-Ngunjiri, it is satisfied that she has the appropriate expertise and experience to meet the responsibilities of this position. The committee is also satisfied that the internal audit function is adequately resourced with technically competent individuals and operates both effectively and efficiently.

The committee is responsible for:

- ensuring that the group's internal audit function is independent and has the necessary resources, standing and authority within the group to enable it to perform its duties
- oversees co-operation between the internal and external auditors, and serves as a link between the board of directors and these functions

The chief audit executive is responsible for regularly reporting the findings of the internal audit work against the agreed internal audit plan to the committee. She has direct access to the committee, primarily through its chairman.

During the year, the committee met with the external auditors and with the chief audit executive without management being present.

The committee is satisfied that the group internal audit follows an approved risk-based internal audit plan and regularly reviews the group's risk profile with necessary changes to the internal audit plan being proposed as and when deemed appropriate. Internal audit provides an overall statement as to the effectiveness of the group's governance, risk management and control processes.

External independent quality assessment

During FY19, the internal audit function underwent an independent quality review conducted by the Institute of Internal Auditors South Africa. The internal audit function was found to generally conform with the International Standards for the Professional Practice of Internal Auditing. No material findings were noted.

Combined assurance

The committee is satisfied that the group has optimised the assurance coverage obtained from management, and internal and external assurance providers, in accordance with an appropriate approved combined assurance model. The committee is also satisfied that the combined assurance model and related systems and procedures are effective in achieving the following objectives:

- Enabling an effective internal control environment
- Supporting the integrity of information used for internal decision-making by management, the board and its committees
- Supporting the integrity of external reports
- Minimising assurance fatigue

Going concern

The audit committee has reviewed a documented assessment, including key assumptions prepared by management, of the going-concern status of the group. The board's statement on the going-concern status of the group, as supported by the audit committee, appears in the directors' responsibility for financial reporting section of the integrated annual report.

Governance of risk

The audit committee fulfils a dual function, being both an audit committee and a risk committee. Internal audit conducts regular and full assessments of the risk management function and framework. The committee is satisfied with the effectiveness of its oversight of the governance of risk in the group. A detailed report on risk, as recommended in King IV, is contained in this integrated annual report. See *Managing risks and opportunities*.

Technology and information governance

The board recognises that technology is now more than just an enabler, but that technology is both a source for future opportunities and platforms on which our organisation conducts its business.

The audit and risk committee has delegated responsibility to management for implementing the policy on enterprise-wide technology and information management, and for embedding it into the day-to-day, medium- and long-term decision-making activities and culture of the organisation.

During the period under review, inter alia, management introduced a hybrid sourcing model ensuring optimal placement of adequately skilled resources to support operational and project initiatives as per the approved strategy, adopted best-practice cybersecurity policies and user awareness programmes enabling a secure and resilient environment, keeping ahead of evolving cyber threats with a revised methodology to governance, complemented by technology, allowing visibility and transparency, which improved compliance and reduced audit effort.

Events subsequent to June 2019

- On 26 July 2019, the Johannesburg High Court approved the R5.2bn settlement of the silicosis and tuberculosis class action suit between the Occupational Lung Disease Working Group – representing Harmony, Gold Fields, African Rainbow Minerals, Anglo American South Africa, AngloGold Ashanti and Sibanye-Stillwater – and lawyers representing affected mineworkers. After a mandatory three-month period, during which potential beneficiaries can opt out of the settlement agreement, the settlement funds will be used to establish the Tshiamiso Trust. The trust will track and trace class members, process all submitted claims, including the undertaking of benefit medical examinations, and pay benefits to eligible claimants
- On 19 August 2019, Harmony and a syndicate of local and international lenders entered into a loan facility agreement which was jointly arranged by Nedbank Limited and ABSA Bank Limited, comprising a revolving credit facility (RCF) of up to US$200 million and a term portion of up to US$200 million. The tenor of the facility is three years with an option to extend by another one year. The interest rate for the term loan is LIBOR plus 3.05% and LIBOR plus 2.90% for the RCF. Conditions precedent were fulfilled on 26 September 2019 and financial close was on 2 October 2019, with US$5 million (R76 million) being drawn on, resulting in an outstanding balance of US$300 million (R4.6 billion) and an undrawn balance of US$100 million (R1.4 billion)

Fikile De Buck

Chairman: Audit and risk committee

24 October 2019

SOCIAL AND ETHICS COMMITTEE: CHAIRMAN'S REPORT

DEAR STAKEHOLDER

This year we are pleased to publish our ESG Report 2019, complementing our 2019 suite of annual reports. In addition to the integrated report, this report will provide further insight on environmental, social and governance performance. Being a responsible mining company and a good corporate citizen that exemplified ethical business is core to our values and intrinsic to our strategy and operational models. For us at Harmony, sustainable development implies the efficient use of resources to balance economic growth, care for the environment and social well-being to ensure the long-term sustainability of all. Many of the challenges facing the world today, such as climate change, water scarcity, inequality and hunger, can only be resolved by promoting and striving for development that is sustainable in the long term.

Sustainable development is thus a necessary and strategic aspect of value creation. Consequently, the work of the social and ethics committee has become even more significant. Our sustainable development framework and associated policies are evidence of our commitment to responsible stewardship. In compiling our framework, policies and related procedures, we have considered the principles of the International Council on Mining and Metals, the United Nations Global Compact and the Voluntary Principles on Security and Human Rights.

Our framework also takes into account the United Nations Sustainable Development Goals (SDGs) and the role Harmony can play in advancing these within our sphere of influence. We contribute directly and indirectly, positively and negatively, to many of the SDGs. We have identified those goals with which our sustainable development activities are more directly and positively aligned. They are:

Closely allied to the social and ethics committee's role in supporting sustainable development is the monitoring and oversight of stakeholder engagement, in terms of which, the SDGs relating to Peace, justice and strong institutions (SDG 16) and to Partnerships for the goals (SDG 17) are especially relevant. They are linked to how we implement and practice corporate governance, and to our roles of ethical leadership and responsible corporate citizenship. We contribute more indirectly to many of the other SDGs. For further detail on this, see *Sustainable development strategy and framework* in the Integrated Annual Report 2019.

As part of ongoing interventions to create and share value, this committee continues to assess, review and approve the ethics policy, stakeholder engagement policy, environmental policy, employment equity and woman in mining strategy, the preferential procurement policy and strategy, and guided towards settlement on the silicosis matter.

For further information on the social and ethics committee and its activities during FY19, see *Corporate governance.*

Meaningful stakeholder engagement

As public expectations of mining companies grow, stakeholder engagement and its effective management are vital to maintaining our reputation and social licence to operate. Based on trust and transparency, meaningful stakeholder engagement should be frequent, inclusive, honest and fruitful. Establishing such relationships, takes time and effort. Given the prevailing political and socio-economic environments in the countries in which we operate, every effort is made to engage with stakeholders and to manage our relationships with care and consideration.

This past year, we influenced and informed our community grievance policy and procedure and have started assurance on the number of grievances resolved as well.

For more details on our stakeholders, our engagement with them and our most material issues, see *Stakeholder engagement* and *Our material ESG issues*.

A healthy, safe and engaged workforce

A healthy workforce and safe workplace correlates positively with improved productivity. Proactive healthcare remains key to our strategy – the first and fourth pillars – and in FY19 we continued to promote and raise awareness of the importance of health and well-being, prevention and treatment, and continuous health risk profiling. Tuberculosis, HIV/Aids, and occupational health concerns – dust, heat, noise and radiation – remain the focus.

While this committee does not have specific oversight of employee safety – this falls to the technical committee – it is nevertheless an important consideration in terms of ESG and during board discussions. For information on our approach and actions in relation to employee safety, see the *CEO's review* and the technical committee's report in *Corporate governance* in this integrated report, and *Safety and health* in our *ESG report 2019*.

In South Africa, much work has been done collectively to address the silicosis legacy in the gold mining industry and ensure a sustainable and comprehensive solution for the compensation of occupational lung diseases, as covered by the Occupational Diseases in Mines and Works Act. Settlement of the silicosis class action reached in FY18 was approved by the High Court in July 2019. Following an opt-out period, the Tshiamiso Trust will begin implementing the settlement. The six participating mining companies will together contribute an estimated R5 billion to this Trust. In addition, through Harmony's Ku-Riha and RECONNECT projects, we have assisted 10 800 former Harmony employees who received compensation from the Compensation Commissioner's fund to the value of R206 million.

In FY19, a gender diversity strategy to improve women representation in management which was approved by the board in FY18 was fully rolled out.

For further information on employees, see *Employee relations* in this report.

Empowering and transforming communities

Our responsibility to host communities extends far beyond the provision of direct employment. Our local economic development programmes, and our support for local procurement and business opportunities all contribute to sustainable development in host communities. In line with our commitment to local procurement spend in host communities, our preferential procurement strategy and enterprise and supplier development strategy were approved and implemented in FY19. This is also in line with the prescripts of the Mining Charter III which came into effect in South Africa in FY19.

Community development projects focus on infrastructure, enterprise development, agricultural job creation and participation by women and youth. In the past year, our major investments centred on roads rehabilitation in the Free State, implementation of commercial agricultural programmes in Papua New Guinea and South Africa, and youth business hubs to grow the small, medium and micro enterprise sector in informal communities. For detail on our activities in this sphere in the past year, see *Socio-economic development* in this report and in our *ESG report 2019*.

In terms of public health and safety, we monitor and manage our activities to limit community exposure to any potential health hazards so as to ensure the well-being of host communities.

Environmental stewardship and management

Responsible management of our environmental impact and consumption of finite resources are priorities. Reducing our rates of energy and water consumption and improving related efficiencies are vital in limiting our impact on climate change. Our electricity management strategies have seen us reduce the related intensity of use by 24% since 2013. Notwithstanding improvements, Harmony has also recognised the legal considerations relating to carbon tax and have included this in our impairment testing.

Water is a scarce and shared resource where we operate and access to clean water is a basic human right. To alleviate our dependency on potable supplies, Harmony established a third water recycling plant at its South African operations.

Our performance is reflected in our scoring on our CDP Climate Change and CDP Water submissions, reflecting our commitment to delivery. To enhance disclosure, this coming year we will also begin the transition to reporting in terms of the guidelines of the Task Force on Climate-related Financial Disclosures (TCFD).

During the past year, Harmony conducted a review of our operational tailings management programme and related oversight capability and capacity. We are satisfied that our tailings storage facilities are being managed in line with industry good practice. This review included an independent assessment by technical experts in the field of the technical design for new facilities and expansions.

We completed the year with zero production impacts arising from our environmental performance.

Dr Simo Lushaba

Chairman: Social and ethics committee

24 October 2019

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Harmony Gold Mining Company Limited

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying group balance sheets of Harmony Gold Mining Company Limited and its subsidiaries (the "Company") as of June 30, 2019 and 2018 and the related group income statements, statements of comprehensive income, statements of changes in shareholders' equity, and cash flow statements for each of the three years in the period ended June 30, 2019 including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of June 30, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of June 30, 2019 and 2018 and the results of its operations and its cash flows for each of the three years in the period ended June 30, 2019, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of June 30, 2019 based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting appearing under Item 15B. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Impairment of mining assets

As described in Notes 2, 6 and 13 to the consolidated financial statements, mining assets include mine development costs and mine plant facilities. Management conducts an impairment test whenever events or changes in circumstances indicate that the carrying amount for each cash generating unit ("CGU") exceeds its recoverable amount. An impairment loss is recognized in the income statement for the amount by which the asset's carrying amount exceeds its recoverable amount. An impairment of R 3,898 million was recorded on the entity's consolidated assets for the year ended June 30, 2019. The recoverable amount of mining assets is determined utilizing real discounted future cash flows or resource multiples in the case of undeveloped properties and certain resource bases. Management's future cash flows included significant judgements and assumptions for the calculations of the mining assets' recoverable amounts relating to the commodity prices, resource values, marketable discount rates, costs to sell, exchange rates and annual life-of mine plans. In determining the commodity prices and resource values to be used, management assesses the long-term views of several institutions on commodity prices and based on this, derives the commodity prices and resource values. Gold mineral reserves and resources are estimates of the amount of ounces that can be economically and legally extracted from the group's properties. The life-of-mine plans are based on proved and probable reserves as included in the Reserve Declaration, which are determined in terms of the South African Code for the Reporting of Exploration Results, Mineral Resources and Reserves (SAMREC). In declaring the resource, management would have had to obtain a specified level of confidence of the existence of the resource through drilling as required by the SAMREC.

The principal considerations for our determination that performing procedures relating to the impairment of mining assets is a critical audit matter is that there was significant judgment by management when determining the recoverable amount for each CGU. This in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures to evaluate management's future cash flows and significant assumptions, including commodity prices, exchange rates, marketable discount rates, annual life-of-mine plans and resource values. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained from these procedures.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's impairment test, including controls over management's process for developing the recoverable amount for each CGU. These procedures also included, among others, testing management's process for developing the recoverable amount for each CGU, evaluating the appropriateness of the discounted cash flow and resource values per CGU, testing the completeness, accuracy and relevance of the underlying data used in the discounted cash flow and resource values, and evaluating the significant assumptions used by management including commodity prices, exchange rates, marketable discount rates, annual life-of-mine plans and resource values. Evaluating management's significant assumptions related to life-of-mine plans and resource values involved (i) evaluating the reasonableness of the cash flow forecasts used in the life-of-mine plans and resource values by comparing the cash flow forecasts to current and historical operational results, the reserves and resources signed off by the group's Competent Person, and final approved budgets, (ii) evaluating the consistency of the prior period forecast to the current year's forecast, and (iii) evaluating the reasonableness of the allocation of the resource values by comparing the resources incorporated in the current year plan to what is included as part of the Mineral Resources and Reserves declaration. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's impairment test and certain significant assumptions including commodity prices, exchange rates, marketable discount rates, and resource values.

/s/ PricewaterhouseCoopers Inc.
Johannesburg, Republic of South Africa
October 24, 2019

We have served as the Company's auditor since 1950

GROUP INCOME STATEMENTS

for the years ended 30 June 2019

Figures in million	Notes	SA rand 2019	2018	2017
Revenue	5	**26 912**	20 452	19 494
Cost of sales	6	**(28 869)**	(23 596)	(19 869)
Production costs		**(20 324)**	(15 084)	(15 042)
Amortisation and depreciation		**(4 054)**	(2 570)	(2 519)
Impairment of assets		**(3 898)**	(5 336)	(1 718)
Other items		**(593)**	(606)	(590)
Gross profit/(loss)		**(1 957)**	(3 144)	(375)
Corporate, administration and other expenditure		**(731)**	(813)	(517)
Exploration expenditure		**(148)**	(135)	(241)
Gains on derivatives	18	**484**	99	1 025
Other operating expenses	7	**(186)**	(667)	(886)
Operating profit/(loss)		**(2 538)**	(4 660)	(994)
Gain on bargain purchase	12	**—**	—	848
Loss on liquidation of subsidiaries		**—**	—	(14)
Share of profit/(loss) from associate	20	**59**	38	(22)
Acquisition related costs	12	**—**	(98)	—
Investment income	8	**308**	343	268
Finance costs	9	**(575)**	(330)	(234)
Profit/(loss) before taxation		**(2 746)**	(4 707)	(148)
Taxation	10	**139**	234	510
Net profit/(loss) for the year		**(2 607)**	(4 473)	362
Attributable to:				
Owners of the parent		**(2 607)**	(4 473)	362
Earnings/(loss) per ordinary share (cents)				
Total earnings/(loss)	11	**(498)**	(1 003)	82
Diluted earnings/(loss) per ordinary share (cents)				
Total diluted earnings/(loss)	11	**(500)**	(1 004)	79

The accompanying notes are an integral part of these consolidated financial statements.

GROUP STATEMENTS OF COMPREHENSIVE INCOME
for the years ended 30 June 2019

		SA rand		
Figures in million	Notes	**2019**	2018	2017
Net profit/(loss) for the year		**(2 607)**	(4 473)	362
Other comprehensive income for the year, net of income tax		**(684)**	(660)	818
Items that may be reclassified subsequently to profit or loss	24	**(677)**	(647)	821
Foreign exchange translation gain/(loss)		**(50)**	83	(322)
Remeasurement of gold hedging contracts				
Unrealised gain/(loss) on gold contracts		**(351)**	273	2 172
Released to revenue		**(453)**	(1 197)	(728)
Released to gains on derivatives		**—**	—	(16)
Deferred taxation thereon		**177**	194	(285)
Items that will not be reclassified to profit or loss:	24	**(7)**	(13)	(3)
Remeasurement of retirement benefit obligation		**(7)**	(13)	(3)
Total comprehensive income for the year		**(3 291)**	(5 133)	1 180
Attributable to:				
Owners of the parent		**(3 291)**	(5 133)	1 180

The accompanying notes are an integral part of these consolidated financial statements.

GROUP BALANCE SHEETS

Figures in million	Notes	SA rand At 30 June 2019	At 30 June 2018
ASSETS			
Non-current assets			
Property, plant and equipment	13	**27 749**	30 969
Intangible assets	14	**533**	545
Restricted cash	15	**92**	77
Restricted investments	16	**3 301**	3 271
Investments in associates	20	**110**	84
Inventories	22	**43**	46
Other non-current assets	17	**334**	264
Derivative financial assets	18	**197**	84
Total non-current assets		**32 359**	35 340
Current assets			
Inventories	22	**1 967**	1 759
Restricted cash	15	**44**	38
Trade and other receivables	19	**1 064**	1 139
Derivative financial assets	18	**309**	539
Cash and cash equivalents		**993**	706
Total current assets		**4 377**	4 181
Total assets		**36 736**	39 521
EQUITY AND LIABILITIES			
Share capital and reserves			
Share capital and premium	23	**29 551**	29 340
Other reserves	24	**4 773**	5 145
Accumulated loss		**(11 710)**	(9 103)
Total equity		**22 614**	25 382
Non-current liabilities			
Deferred tax liabilities	10	**688**	1 145
Provision for environmental rehabilitation	25	**3 054**	3 309
Provision for silicosis settlement	26	**942**	925
Retirement benefit obligation	27	**201**	186
Borrowings	29	**5 826**	4 924
Other non-current liabilities	28	**5**	41
Derivative financial liabilities	18	**172**	10
Total non-current liabilities		**10 888**	10 540
Current liabilities			
Borrowings	29	**89**	690
Trade and other payables	30	**2 875**	2 704
Derivative financial liabilities	18	**270**	205
Total current liabilities		**3 234**	3 599
Total equity and liabilities		**36 736**	39 521

The accompanying notes are an integral part of these consolidated financial statements.

GROUP STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
for the years ended 30 June 2019

	Number of ordinary shares issued	Share capital and premium	Accumulated loss	Other reserves	Total
Notes	23	23		24	
Figures in million (SA rand)					
Balance - 30 June 2016	437 299 479	28 336	(4 409)	4 252	28 179
Issue of shares					
– Exercise of employee share options	2 657 720	—	—	—	—
Share-based payments	—	—	—	371	371
Net profit for the year	—	—	362	—	362
Other comprehensive income for the year	—	—	—	818	818
Dividends paid	—	—	(439)	—	(439)
Balance - 30 June 2017	439 957 199	28 336	(4 486)	5 441	29 291
Issue of shares					
– Shares issued and fully paid	55 055 050	1 004	—	—	1 004
– Exercise of employee share options	5 239 502	—	—	—	—
Share-based payments	—	—	—	374	374
Net loss for the year	—	—	(4 473)	—	(4 473)
Other comprehensive income for the year	—	—	—	(660)	(660)
Reclassification from other reserves	—	—	10	(10)	—
Dividends paid	—	—	(154)	—	(154)
Balance - 30 June 2018	500 251 751	29 340	(9 103)	5 145	25 382
Impact of adopting IFRS 9 (refer to note 2)	**—**	**—**	**—**	**82**	**82**
Re-presented opening balance - 1 July 2018	**500 251 751**	**29 340**	**(9 103)**	**5 227**	**25 464**
Issue of shares					
– Shares issued and fully paid	**11 032 623**	**211**	**—**	**—**	**211**
– Exercise of employee share options	**21 856 821**	**—**	**—**	**—**	**—**
– Harmony ESOP Trust	**6 700 000**	**—**	**—**	**—**	**—**
Share-based payments	**—**	**—**	**—**	**230**	**230**
Net loss for the year	**—**	**—**	**(2 607)**	**—**	**(2 607)**
Other comprehensive income for the year	**—**	**—**	**—**	**(684)**	**(684)**
Balance - 30 June 2019	**539 841 195**	**29 551**	**(11 710)**	**4 773**	**22 614**

The accompanying notes are an integral part of these consolidated financial statements.

GROUP CASH FLOW STATEMENTS

for the years ended 30 June 2019

		SA rand		
Figures in million	Notes	**2019**	2018	2017
CASH FLOW FROM OPERATING ACTIVITIES				
Cash generated by operations	31	**5 052**	4 289	4 346
Interest received		**69**	82	75
Interest paid		**(387)**	(180)	(79)
Income and mining taxes paid		**(55)**	(307)	(538)
Cash generated by operating activities		**4 679**	3 884	3 804
CASH FLOW FROM INVESTING ACTIVITIES				
Increase in restricted cash		**(15)**	(32)	(1)
Decrease in amounts invested in restricted investments	16	**187**	—	7
Cash on acquisition of Hidden Valley	12	**—**	—	459
Acquisition of Moab Khotsong	12	**—**	(3 474)	—
Additions to intangible assets		**(1)**	(9)	—
Redemption of preference shares from associates	20	**32**	—	—
Capital distributions from investments	17	**30**	—	—
Proceeds from disposal of property, plant and equipment		**5**	2	42
Additions to property, plant and equipment		**(5 035)**	(4 562)	(3 890)
Cash utilised by investing activities		**(4 797)**	(8 075)	(3 383)
CASH FLOW FROM FINANCING ACTIVITIES				
Borrowings raised	29	**1 522**	6 937	699
Borrowings repaid	29	**(1 353)**	(4 063)	(710)
Proceeds from the issue of shares	23	**211**	1 003	—
Dividends paid		**—**	(154)	(439)
Cash generated from/(utilised by) financing activities		**380**	3 723	(450)
Foreign currency translation adjustments		**25**	(72)	19
Net increase/(decrease) in cash and cash equivalents		**287**	(540)	(10)
Cash and cash equivalents - beginning of year		**706**	1 246	1 256
Cash and cash equivalents - end of year		**993**	706	1 246

The accompanying notes are an integral part of these consolidated financial statements.

NOTES TO THE GROUP FINANCIAL STATEMENTS
for the years ended 30 June 2019

1 GENERAL INFORMATION

Harmony Gold Mining Company Limited (the company) and its subsidiaries (collectively Harmony or the group) are engaged in gold mining and related activities, including exploration, extraction and processing. Gold bullion, the group's principal product, is currently produced at its operations in South Africa and Papua New Guinea (PNG). Uranium and silver are produced as by-products.

The company is a public company, incorporated and domiciled in South Africa. The address of its registered office is Randfontein Office Park, Corner Main Reef Road and Ward Avenue, Randfontein, 1759.

The consolidated financial statements were authorised for issue by the board of directors on 24 October 2019.

2 ACCOUNTING POLICIES

BASIS OF PREPARATION

The principal accounting policies applied in the preparation of the consolidated financial statements have been consistently applied in all years presented except for the changes as described under "Recent accounting developments" below.

The comparative amounts in the balance sheet were re-presented due to the finalisation of the purchase price allocation which was done on a provisional basis in 2018. Refer to note 12 for more information.

Non-current trade and other receivables and other non-current assets, which were presented as separate line items in the balance sheet in 2018, have been combined into a single line item called other non-current assets in 2019.

Effective 1 July 2018, Harmony changed its presentation currency from the US dollar to the South African rand, which is the functional currency for the majority of the group's operations. The functional currency represents the currency of the primary economic environment in which underlying businesses operate. Management believe that utilising a presentation currency that is consistent with the functional currency for the majority of the group's operations, in which approximately 85% - 90% of the group's revenue and costs are generated, provides more relevant financial information. The presentation of the results of the group's operations in US dollar may be difficult to understand as a result of the volatile exchange rate differential between the two currencies, which can distort the results and financial position when comparing the current year to prior years. It should be noted that the functional currencies of the group's underlying businesses remain unchanged and that foreign exchange exposures will therefore be unaffected by the change.

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (IASB) and IFRS Interpretations Committee (IFRIC) Interpretations (collectively IFRS).

The consolidated financial statements have been prepared on a going concern basis.

The consolidated financial statements have been prepared to the nearest million and rounding may cause differences.

RECENT ACCOUNTING DEVELOPMENTS

New standards, amendments to standards and interpretations to existing standards adopted by the group

During the financial year, the following new standards, amendments to standards and interpretations to existing standards were adopted by the group. No other standards and amendments to standards that became effective during the 2019 year had a material impact on the consolidated financial statements.

IFRS 15 – *Revenue from Contracts with Customers*

IFRS 15 establishes a single comprehensive five-step model to account for revenue arising from contracts with customers and is based on the core principle that revenue is recognised when control of a good or service transfers to a customer. It is effective for annual periods beginning on or after 1 January 2018. Harmony adopted the standard on 1 July 2018 under the full retrospective approach. The adoption of the new standard did not have an impact on the group's accounting for revenue as discussed below.

Scope of IFRS 15
The group's contracts that are in scope of the new revenue standard include gold, silver and uranium contracts. Income derived from all of these products are presented in revenue.

Revenue measurement
Under the previous standard, IAS 18, *Revenue*, revenue was measured at the fair value of the consideration received and discounted to the present value of consideration due if payment extended beyond normal credit terms. Historically payments have not extended beyond normal credit terms and the amount of revenue recognised equated to the transaction price.

2 ACCOUNTING POLICIES continued

RECENT ACCOUNTING DEVELOPMENTS continued

New standards, amendments to standards and interpretations to existing standards adopted by the group continued

IFRS 15 – *Revenue from Contracts with Customers* continued

Revenue measurement continued
Under IFRS 15, revenue is measured at the amount of consideration to which an entity expects to be entitled in exchange for transferring goods to a customer. The group's contracts do not contain elements of variable consideration, non-cash consideration or significant financing components and therefore the amount of revenue recognised equates to the transaction price. The group has not applied the practical expedient for significant financing components as there are none present in the group's contracts with customers.

Revenue recognition
Under IAS 18, revenue was recognised for the South African operations when the goods were delivered and a certificate of sale for gold and confirmation of transfer for uranium was issued. At Hidden Valley, the point of recognition was when the metal account was credited. This was taken to be the point in time at which the customer accepted the goods and the related risks and rewards of ownership transferred.

IFRS 15 requires revenue to be recognised when a customer obtains control of the goods. The group has assessed that the drivers for revenue recognition are unchanged as this is the point when control of the goods effectively transfers to the customer.

Hedge accounting
The effective portion of gains or losses on the derivatives designated as cash flow hedging items (forecast sales transactions) are recognised in revenue when the forecast sales transactions occur. The adoption of IFRS 15 and IFRS 9, *Financial Instruments* did not have an impact on the amount or timing of the hedging gains or losses recognised in revenue.

Subsequent changes
Subsequent to the adoption of IFRS 15, the customer who bought gold and silver from Hidden Valley was changed and a new contract was entered into. The point at which control of the product transfers to this customer is when the metal is collected from Hidden Valley and a confirmation of collection is sent to and accepted by the customer.

IFRS 9 – *Financial Instruments*

IFRS 9 replaces IAS 39, *Financial Instruments: Recognition and Measurement* and is effective for annual periods beginning on or after 1 January 2018. Harmony adopted the new standard on 1 July 2018. In line with the transitional provisions of IFRS 9, the group has applied the standard retrospectively without restating any comparative figures. The impact of adoption of the new standard is discussed below.

NOTES TO THE GROUP FINANCIAL STATEMENTS continued
for the years ended 30 June 2019

2 ACCOUNTING POLICIES continued

RECENT ACCOUNTING DEVELOPMENTS continued

New standards, amendments to standards and interpretations to existing standards adopted by the group continued

IFRS 9 – *Financial Instruments* continued

Classification and measurement
In terms of IFRS 9, financial instruments are measured either at amortised cost or at fair value. Movements in fair value are presented in either profit or loss (FVTPL) or other comprehensive income (FVOCI), subject to certain criteria being met. On 1 July 2018 management classified the group's financial instruments into the appropriate IFRS 9 categories. The new standard did not have a significant impact on the classification and measurement of the group's financial assets and derivative financial instruments as illustrated below:

Figures in million (SA rand)	Measurement category IAS 39	Measurement category IFRS 9	Carrying amount 30 June 2018 IAS 39	Carrying amount 1 July 2018 IFRS 9
Restricted cash	Loans and receivables (amortised cost)	Debt instruments at amortised cost (a)	115	115
Cash and cash equivalents	Loans and receivables (amortised cost)	Debt instruments at amortised cost (a)	706	706
Trade and other receivables	Loans and receivables (amortised cost)	Debt instruments at amortised cost (a)	626	626
Restricted investments (cash and cash equivalents)	Loans and receivables (amortised cost)	Debt instruments at amortised cost (a)	23	23
Restricted investments (fixed deposits)	Held-to-maturity investments (amortised cost)	Debt instruments at amortised cost (a)	2 335	2 335
Restricted investments (equity-linked deposits)	Fair value through profit or loss	Debt instruments at fair value through profit or loss (b)	913	913
Other non-current assets (equity instruments)	Available-for-sale financial assets (cost)	Equity instruments designated at fair value through OCI (c)	8	90
Other non-current assets (debt instruments)	Loans and receivables (amortised cost)	Debt instruments at fair value through profit or loss (d)	253	253
Derivative financial instruments (hedging instruments)	Hedging instruments (fair value through profit or loss)	Derivatives designated as cash flow hedges (e)	482	482
Derivative financial instruments (fair value through profit or loss)	Fair value through profit or loss	Derivatives at fair value through profit or loss (e)	(74)	(74)

(a) The majority of loans and receivables, including debt instruments previously classified as held-to-maturity, are classified and measured at amortised cost under IFRS 9 as the group's business model is to hold these instruments in order to collect contractual cash flows, which is solely payments of principal and interest.
(b) Debt investments previously measured at FVTPL are classified and measured on the same basis under IFRS 9.
(c) An irrevocable election was made to classify the equity instruments previously classified as available-for-sale as at FVOCI. The new standard impacted the measurement of the group's unquoted equity investments. IFRS 9 eliminates the exemption provided under IAS 39 where unquoted equity investments were measured at cost when fair value could not be reliably measured. This change resulted in revaluing unlisted investments with a cost of Rnil to fair value of R82 million. The difference between the carrying amounts of financial instruments before the adoption of IFRS 9 and the new carrying amount calculated in accordance with the standard at 1 July 2018 was recognised directly in the opening balance of equity. Refer to the statements of changes in equity.
(d) The loan to the ARM BBEE Trust, previously carried at amortised cost, is classified at FVTPL under IFRS 9 as the contractual cash flows fail the solely payments of principal and interest (SPPI) characteristics. The group determined that the contractual terms include exposure to risk and volatility that is inconsistent with a basic lending arrangement. In making this assessment the group considered contingent events that would change the amount and timing of cash flows and potential limits on the group's claim to cash flows from specified assets (e.g. non-recourse asset arrangements). The change in classification did not have an impact on the carrying amount of the loan on initial adoption as the carrying amount was equal to the fair value. The loan is included in other non-current assets in the balance sheet. Previously, the ARM BBEE Trust loan was included in non-current trade and other receivables in the balance sheet.
(e) Derivative financial instruments continue to be classified and measured at FVTPL.

There was no impact on the group’s accounting for financial liabilities as the new requirements only affected the accounting for financial liabilities that are designated at FVTPL and currently the group does not have any such liabilities.

2 ACCOUNTING POLICIES continued

RECENT ACCOUNTING DEVELOPMENTS continued

New standards, amendments to standards and interpretations to existing standards adopted by the group continued

IFRS 9 – *Financial Instruments* continued

Impairment
The change from the “incurred loss” model to the “expected credit loss” model did not have a material impact on the measurement of the group's financial assets. Under IFRS 9, credit losses are recognised earlier than under IAS 39. Refer to note 4 for details on how the credit loss was calculated.

Hedge accounting
Except for assessing hedge effectiveness, accounting for the group's defined hedge relationships remained unchanged under IFRS 9. The new requirements and disclosures have been applied for 2019 only.

IFRS 2 – *Share-based payment* (Amendment)

A collection of three distinct narrow-scope amendments dealing with classification and measurement of share-based payments. The amendments are effective for annual periods beginning on or after 1 January 2018 and address:
- the effects of vesting conditions on the measurement of a cash-settled share-based payment;
- the accounting requirements for a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled; and
- the classification of share-based payment transactions with net settlement features.

The amendments do not have a material impact on the group.

Change in accounting policy - classification of by-products

Previously, income from silver and uranium sales were classified as a credit to cost of sales. The increasing significance of by-product income following the acquisition of the additional Hidden Valley interest warrants the by-products to be considered an output of the group's ordinary activities and therefore income from these products is presented now as part of the group's revenue.

The change in accounting policy results in an increase in revenue and a consequential increase in costs of sales and therefore does not have an impact on previously reported gross profit or loss. The group has applied the change retrospectively to each prior reporting period presented in accordance with IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*. The impact on revenue and cost of sales is as follows:

	SA rand	
Figures in million	2018	2017
Revenue as previously reported	20 359	19 264
By-product revenue	93	230
Revenue (re-presented)	**20 452**	**19 494**
Cost of sales as previously reported	23 503	19 639
By-product revenue	93	230
Cost of sales (re-presented)	**23 596**	**19 869**

New standards, amendments to standards and interpretations to existing standards that are not yet effective and have not been early adopted

At the date of authorisation of these financial statements, the standards, amendments to standards and interpretations listed below were in issue but not yet effective. These new standards and interpretations have not been early adopted by the group and the group plans on adopting these standards, amendments to standards and interpretations on the dates when they become effective.

IFRS 16 – *Leases*

IFRS 16 replaces the previous accounting standard on leases, IAS 17 *Leases* and related Interpretations. The new standard introduces a single lease accounting model and requires a lessee to capitalise most leases with certain exemptions. A lessee is required to recognise a right of use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments.

2 ACCOUNTING POLICIES continued

RECENT ACCOUNTING DEVELOPMENTS continued

New standards, amendments to standards and interpretations to existing standards that are not yet effective and have not been early adopted continued

IFRS 16 – *Leases* *continued*

The group will apply IFRS 16 initially on 1 July 2019 using the modified retrospective approach. Under this approach, the cumulative effect of adopting the new standard will be recognised as an adjustment to the opening balance of retained earnings at 1 July 2019 with no restatement of comparative information. The group has elected to recognise the right-of-use assets at an amount equal to the lease liability at 1 July 2019 together with the following practical expedients:

- Exemption not to capitalise leases for which the underlying asset is of low value;
- Exemption not to capitalise short-term leases;
- Recognition exemption for leases for which the lease term ends within 12 months of the date of initial application; and
- Exclude initial direct costs from the measurement of the right-of-use asset on initial adoption.

Based on the contracts in existence on 30 June 2019, the group expects to recognise additional right-of-use assets and related lease liabilities of between R80 million to R120 million on 1 July 2019 relating to leases previously classified as operating leases. In calculating this range, options to extend the lease contracts that are reasonably certain to be exercised were taken into account in determining the lease term. Currently, the minimum future lease payments under non-cancellable operating leases amount to R48 million, representing solely payments under the non-cancellable periods per the contracts and excluding any options to extend the lease term.

Furthermore, an increase in the group's depreciation charge and finance cost is also expected while production cost is expected to decrease. Operating cash flows are expected to increase and financing cash flows to decrease as repayment of the principal portion of the lease liabilities will be classified as cash flows from financing activities, while previously the operating lease payments were classified as cash flows from operating activities.

The adoption of IFRS 16 will not impact the group's current debt covenant arrangements with financial institutions.

IFRS 3 *Business Combinations* (Amendment)

These amendments are effective for annual periods beginning on or after 1 January 2020 and make it easier for companies to decide whether activities and assets they acquire are a business or merely a group of assets. The amendments:

– Confirm that a business must include inputs and a process, and clarified that: (i) the process must be substantive and (ii) the inputs and process must together significantly contribute to creating outputs;
– Narrow the definitions of a business by focusing the definition of outputs on goods and services provided to customers and other income from ordinary activities, rather than on providing dividends or other economic benefits directly to investors or lowering costs; and
– Add a test that makes it easier to conclude that a company has acquired a group of assets, rather than a business, if the value of the assets acquired is substantially all concentrated in a single asset or group of similar assets.

The amendments are not expected to have a material impact on the group.

IAS 1 *Presentation of Financial Statements* and IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* (Amendment)

The amendments, effective for annual periods beginning on or after 1 January 2020, clarify and align the definition of "material" and provide guidance to help improve consistency in the application of materiality whenever it is used in IFRS Standards.

IAS 19 *Employee Benefits* (Amendment)

The amendments require an entity to use the updated assumptions from a remeasurement of net defined benefit liability or asset resulting from a plan amendment, curtailment or settlement to determine current service cost and net interest for the remainder of the reporting period after the change to the plan. The amendments apply for annual periods beginning on or after 1 January 2019 and is not expected to have a material impact on the group.

IAS 23 *Borrowing Costs* (Amendment)

The amendments clarify that if any specific borrowing remains outstanding after the related asset is ready for its intended use or sale, that borrowing becomes part of the funds that an entity borrows generally when calculating the capitalisation rate on general borrowings.The amendments apply for annual periods beginning on or after 1 January 2019 and is not expected to have a material impact on the group.

2 ACCOUNTING POLICIES continued

RECENT ACCOUNTING DEVELOPMENTS continued

New standards, amendments to standards and interpretations to existing standards that are not yet effective and have not been early adopted continued

IAS 28 *Investments in Associates and Joint Ventures* (Amendment)

The amendments clarify that an entity applies IFRS 9 to long-term interests in an associate and joint venture that forms part of the net investment in the associate or joint venture but to which the equity method is not applied. The amendments apply for annual periods beginning on or after 1 January 2019 and is not expected to have a material impact on the group.

IFRIC 23 *Uncertainty over Income Tax Treatments*

The interpretation specifies how an entity should reflect the effects of uncertainties in accounting for income taxes and is effective for annual periods beginning on or after 1 January 2019. IFRIC 23 specifically clarifies how to incorporate this uncertainty into the measurement of tax as reported in the consolidated financial statements. The interpretation does not introduce any new disclosures but reinforces the need to comply with existing disclosure requirements about judgements made, assumptions and other estimates used and the potential impact of uncertainties that are not reflected. The interpretation will not have a material impact on the group.

MEASUREMENT BASIS

The financial statements have been prepared under the historical cost convention except for certain financial assets and financial liabilities which are measured at fair value through profit or loss or other comprehensive income - refer to note 4.

GROUP ACCOUNTING POLICIES

Accounting policies are included in the relevant notes to the consolidated financial statements and have been highlighted between red lines in the notes to the consolidated financial statements. The accounting policies that follow are applied throughout the financial statements.

2 ACCOUNTING POLICIES continued

GROUP ACCOUNTING POLICIES continued

2.1 Consolidation

The group recognises that control is the single basis for consolidation for all types of entities in accordance with IFRS 10 - *Consolidated Financial Statements.*

The consolidated financial information includes the financial statements of the company, its subsidiaries, interest in associates and joint arrangements and structured entities. Where the group has no control over an entity, that entity is not consolidated.

Control
The group, regardless of the nature of its involvement with an entity, shall determine whether it is a parent by assessing whether it controls the investee.

The group controls an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity.

(i) Subsidiaries
Subsidiaries are entities over which the group has control. Subsidiaries are fully consolidated from the date on which control is transferred to the group up until when that control ceases.

Intercompany transactions, balances and unrealised gains on transactions between group companies are eliminated. Unrealised losses are also eliminated. Accounting policies of subsidiaries have been changed to ensure consistency with the policies adopted by the group.

The group uses the acquisition method of accounting to account for business combinations. The consideration transferred for the acquisition of an acquiree is the fair value of the assets transferred, liabilities incurred and the equity interests issued by the group. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. On an acquisition-by-acquisition basis, the group recognises any non-controlling interests in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets.

The excess of the sum of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previously held equity interest in the acquiree over the fair value of the group's share of the identifiable net assets acquired is recorded as goodwill. If this is less than the fair value of the net assets of the subsidiary acquired, in the case of a bargain purchase, the difference is recognised directly in the income statement below operating profit or loss.

(ii) Associates
Associates are entities in which the group has significant influence, but not control, over operational and financial policies. This may be when there is a shareholding of between 20% and 50% of the voting rights or when significant influence can be otherwise demonstrated, for example where the group has the right of representation on the board of directors, or other governing body, of the entity.

Investments in associates are accounted for by using the equity method of accounting, and are initially recognised at cost. The group's investment in associates includes goodwill identified on acquisition. Cumulative post-acquisition movements are adjusted against the carrying amount of the investment. The group's share of the associates' post-acquisition profits or losses is recognised in the income statement, and its share of post acquisition movement in reserves is recognised in other reserves. When the group's share of losses in an associate equals or exceeds its interest in the associate, the group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate.

The carrying value of an associate is reviewed on a regular basis and, if impairment in the carrying value has occurred, it is written off in the period in which such impairment is identified.

Accounting policies of associates have been reviewed to ensure consistency with the policies adopted by the group.

(iii) Joint arrangements
Joint arrangements are arrangements of which two or more parties have joint control and are contractually bound. The joint arrangement can either be a joint operation or a joint venture. A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement and have the right to the assets, and obligations for the liabilities, relating to the arrangement. These parties are called joint operators. A joint venture is a joint arrangement where the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Those parties are called joint venturers.

2 ACCOUNTING POLICIES continued

GROUP ACCOUNTING POLICIES continued

2.1 Consolidation continued

(iii) Joint arrangements
For interest in joint operations, the group includes its share of the joint operations' individual income and expenses, assets and liabilities and cash flows on a line-by-line basis with similar items in the group's financial statements.

Where an additional interest in a joint operation is acquired, the principles of IFRS 3 are applied to account for the transaction.

The group recognises the portion of gains or losses on the sale of assets by the group to the joint operation that is attributable to the other joint operators. The group does not recognise its share of profits or losses from the joint operation that results from the purchase of assets by the group from the joint operation until it resells the assets to an independent party. However, if a loss on the transaction provides evidence of a reduction in the net realisable value of current assets or an impairment loss, the loss is recognised immediately.

The group recognises its interest in a joint venture as an investment and accounts for it using the equity accounting method.

(iv) Structured entities
A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when any voting rights relate to administrative tasks only and the relevant activities are directed by means of contractual arrangements.

The accounting treatment for a structured entity will fall into one of the aforementioned categories (i to iii) depending on whether the group has control over that structured entity.

2.2 Foreign currency translation

(i) Functional and presentation currency
Items included in the financial statements of each of the group's entities are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The consolidated financial statements are presented in South African rand, which is the group's presentation currency.

References to “A$” refers to Australian currency, “R” to South African currency, “$” or “US$” to United States currency and “K” or “kina” to Papua New Guinean currency.

(ii) Transactions and balances
Foreign exchange gains and losses resulting from the settlement of foreign currency transactions and from the translation to year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement. Gains and losses recognised in the income statement are included in the determination of other operating expenses.

(iii) Group companies
The results and financial position of all group entities (none of which has the currency of a hyperinflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:
- Assets and liabilities for each balance sheet presented are translated at the closing rate at the date of that balance sheet while equity items are translated at historic rates;
- Income and expenses for each income statement are translated at average exchange rates (the rate on the date of the transaction is used if the average is not a reasonable rate for the translation of the transaction);
- All resulting exchange differences are recognised as a separate component of other comprehensive income.

On consolidation, exchange differences arising from the translation of the net investment in foreign operations, and of borrowings and other currency instruments designated as hedges of such investments, are taken to other comprehensive income. When a foreign operation is sold or control is otherwise lost, exchange differences that were recorded in other comprehensive income are recognised in profit or loss in the period of the disposal or change in control. Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign entity and translated at the closing rate.

2 ACCOUNTING POLICIES continued

GROUP ACCOUNTING POLICIES continued

2.3 Derivatives and hedging activities

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The accounting for subsequent changes in fair value depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged.

The difference between the fair value of the derivative at initial recognition and expected forward transaction price is deferred and recognised as a day one gain or loss. The day one gain or loss is amortised over the derivative contract period and recognised in profit or loss in gains/losses on derivatives.

The full fair value of a derivative is classified as a non-current asset or liability when the remaining maturity is more than 12 months; it is classified as a current asset or liability when the remaining maturity is less than 12 months.

(i) Cash flow hedge
The group designates certain derivatives as hedges of a particular risk associated with the cash flows of highly probable forecast transactions (cash flow hedges). At inception of the hedge relationship, the group documents the economic relationship between hedging instruments and hedged items including whether changes in the cash flows of the hedging instruments are expected to offset changes in the cash flows of hedged items. The group documents its risk management objective and strategy for undertaking its hedge transactions.

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in other comprehensive income and accumulated in reserves in equity. The gain or loss relating to the ineffective portion is recognised immediately in profit or loss within gains/losses on derivatives.

Amounts accumulated in equity are reclassified to profit or loss in the periods when the forecast sale that is hedged takes place and affects profit or loss. The gain or loss relating to the effective portion of the rand and US$ gold forward sales contracts is recognised in profit or loss within revenue.

When a hedging instrument expires or is sold or terminated, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the forecast transaction that was hedged is ultimately recognised in profit or loss. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately reclassified to profit or loss.

(ii) Derivatives not designated for hedge accounting purposes
Certain derivative instruments do not qualify for hedge accounting. Changes in the fair value as well as gains and losses on expiry, disposal or termination of any derivative instrument that does not qualify for hedge accounting are recognised immediately in profit or loss and are included in gains/losses on derivatives.

2.4 Exploration expenditure

The group has elected to expense all exploration and evaluation expenditures until it is concluded that the project is technically feasible and commercially viable, and that future economic benefits are therefore probable. The information used to make that determination depends on the level of exploration as well as the degree of confidence in the ore body as set out below.

Exploration and evaluation expenditure on greenfield sites, being those where the group does not have any mineral deposits which are already being mined or developed, is expensed as incurred until the technical and commercial viability of the project has been demonstrated usually through the completion of a final feasibility study. However, in certain instances, the technical and commercial viability of the deposit may be demonstrated at an earlier stage, for example where an extended feasibility study is conducted and the underlying feasibility study in respect of specific components of the mineral deposit has advanced to such a stage that significant commercially viable reserves has been established, and the other criteria for the recognition of an asset have been met.

Exploration and evaluation expenditure on brownfield sites, being those adjacent to mineral deposits which are already being mined or developed, is expensed as incurred until the group is able to demonstrate that future economic benefits are probable through the completion of a feasibility study, after which the expenditure is capitalised as mine development cost. A ‘feasibility study’ consists of a comprehensive study of the viability of a mineral project that has advanced to a stage where the mining method has been established, and which, if an effective method of mineral processing has been determined, includes a financial analysis based on reasonable assumptions of technical, engineering, operating economic factors and the evaluation of other relevant factors. The feasibility study, when combined with existing knowledge of the mineral property that is adjacent to mineral deposits that are already being mined or developed, allows the group to conclude that the project is technically feasible and commercially viable.

2 ACCOUNTING POLICIES continued

GROUP ACCOUNTING POLICIES continued

2.4 Exploration expenditure continued

Exploration and evaluation expenditure relating to extensions of mineral deposits which are already being mined or developed, including expenditure on the definition of mineralisation of such mineral deposits, is capitalised as a mine development cost following the completion of an economic evaluation equivalent to a feasibility study. This economic evaluation is distinguished from a feasibility study in that some of the information that would normally be determined in a feasibility study is instead obtained from the existing mine or development. This information, when combined with existing knowledge of the mineral property already being mined or developed, allows the directors to conclude that the project is technically feasible and commercially viable.

2.5 Impairment of non-financial assets

Assets that have an indefinite useful life are not subject to amortisation or depreciation and are tested annually for impairment or when there is an indication of impairment.

Assets that are subject to amortisation are reviewed annually on 30 June for impairment or whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

An impairment loss is recognised in the income statement for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash generating unit or CGU). Each operating shaft, along with allocated common assets such as plants and administrative offices, is considered to be a cash generating unit as each shaft is largely independent from the cash flows of other shafts and assets belonging to the group.

Fair value less cost to sell is generally determined by using discounted estimated after-tax future cash flows. Future cash flows are estimated based on quantities of recoverable minerals, expected gold prices (considering current and historical prices, price trends and related factors), production levels and cash costs of production, all based on life-of-mine (LoM) plans. Future cash flows are discounted to their present value using a post-tax discount rate that reflects current market assessments of the time value of money and risk specific to the asset. Refer to note 13 for detail.

The term "recoverable minerals" refers to the estimated amount of gold that will be obtained from reserves and resources and all related exploration stage mineral interests (except for other mine-related exploration potential and greenfields exploration potential discussed separately below) after taking into account losses during ore processing and treatment. Estimates of recoverable minerals from such related exploration stage mineral interests will be risk adjusted based on management's relative confidence in such materials.

In estimating future cash flows, assets are grouped at the lowest level for which there are identifiable cash flows that are largely independent of cash flows from other asset groups. With the exception of other mine-related exploration potential and greenfields exploration potential, estimates of future undiscounted cash flows are included on an area of interest basis, which generally represents an individual operating mine, even if the mines are included in a larger mine complex.

In the case of mineral interests associated with other mine-related exploration potential and greenfields exploration potential, cash flows and fair values are individually evaluated based primarily on recent exploration results and recent transactions involving sales of similar properties, if any. Assumptions underlying future cash flow estimates are subject to significant risks and uncertainties.

Impairment losses on goodwill are recognised immediately in the income statement and are not reversed. The impairment testing is performed annually on 30 June or when events or changes in circumstances indicate that it may be impaired.

Non-financial assets other than goodwill that suffered an impairment are reviewed annually for possible reversal of the impairment at 30 June. Reversal of impairments is also considered when there is objective evidence to indicate that the asset is no longer impaired. Where an impairment subsequently reverses, the carrying amount of the asset or CGU is increased to the revised estimate of its recoverable amount, but not higher than the carrying value that would have been determined had no impairment been recognised in prior years.

2.6 Operating profit

The group defines operating profit as the profit earned from the normal core mining operations. In reporting operating profit in the income statement, transactions for capital transactions involving subsidiaries, joint arrangements and associates are excluded from operating profit as these are not considered to be part of the mining operations of the Harmony group. Any gains or losses on capital transactions are presented below the operating profit line.

3 CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The preparation of the financial statements in conformity with IFRS requires the group's management to make estimates and assumptions that affect the reported amounts of assets and liabilities as well as disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Refer to the specific notes below for further information on the key accounting estimates and assumptions applied.

- Valuation of derivative financial instruments – note 4;
- Estimate of taxation – note 10;
- Recognition of deferred tax asset – note 10;
- Valuation of acquired assets and assumed liabilities for Moab Khotsong and Hidden Valley– note 12;
- Gold mineral reserves and resources – note 13;
- Production start date – note 13;
- Stripping activities – note 13;
- Impairment of assets – note 13;
- Depreciation of property plant and equipment – note 13;
- Impairment of goodwill – note 14;
- Valuation of interest in associate – note 20;
- Provision for stock obsolescence - note 22;
- Estimate of exposure and liabilities with regard to rehabilitation costs – note 25;
- Estimate of provision for silicosis settlement – note 26;
- Estimate of employee benefit liabilities – note 27;
- Fair value of share-based payments – note 33;
- Assessment of contingencies – note 35.

4 FINANCIAL RISK MANAGEMENT

The group's operating activities expose it to a variety of financial risks: market risk (including commodity price risk, currency risk, cash flow interest rate risk and other price risk), credit risk and liquidity risk. The group may use derivative financial instruments to hedge certain risk exposures.

The group's financial assets and liabilities are classified as set out below:

Figures in million (SA rand)	Debt instruments at amortised cost	Equity instruments designated at fair value through OCI	Derivatives designated as cash flow hedges	Derivatives at fair value through profit or loss	Debt instruments at fair value through profit or loss	Financial liabilities at amortised cost
At 30 June 2019						
Financial assets						
Restricted cash	136	—	—	—	—	—
Restricted investments	2 045	—	—	—	1 256	—
Other non-current assets	3	59	—	—	271	—
Non-current derivative financial instruments	—	—	24	173	—	—
- Rand gold hedging contracts	—	—	23	—	—	—
- US$ commodity contracts	—	—	1	—	—	—
- Foreign exchange hedging contracts	—	—	—	173	—	—
Current derivative financial instruments	—	—	26	283	—	—
- Rand gold hedging contracts	—	—	22	—	—	—
- US$ commodity contracts	—	—	4	—	—	—
- Foreign exchange hedging contracts	—	—	—	283	—	—
Trade and other receivables	627	—	—	—	—	—
Cash and cash equivalents	993	—	—	—	—	—
Financial liabilities						
Non-current derivative financial instruments	—	—	172	—	—	—
- Rand gold hedging contracts	—	—	158	—	—	—
- US$ commodity contracts	—	—	14	—	—	—
Current derivative financial instruments	—	—	205	65	—	—
- Rand gold hedging contracts	—	—	164	61	—	—
- US$ commodity contracts	—	—	41	2	—	—
- Foreign exchange hedging contracts	—	—	—	2	—	—
Borrowings	—	—	—	—	—	5 915
Other non-current liabilities	—	—	—	—	—	2
Trade and other payables	—	—	—	—	—	930

4 FINANCIAL RISK MANAGEMENT continued

Figures in million (SA rand)	Loans and receivables	Available-for-sale financial assets	Held-to-maturity investments	Hedging instruments	Fair value through profit or loss	Financial liabilities at amortised cost
At 30 June 2018						
Financial assets						
Restricted cash	115	—	—	—	—	—
Restricted investments	23	—	2 335	—	913	—
Other non-current assets	253	8	—	—	—	—
Non-current derivative financial instruments	—	—	—	70	14	—
Current derivative financial instruments	—	—	—	412	127	—
Trade and other receivables	626	—	—	—	—	—
Cash and cash equivalents	706	—	—	—	—	—
Financial liabilities						
Non-current derivative financial instruments	—	—	—	—	10	—
Current derivative financial instruments	—	—	—	—	205	—
Borrowings	—	—	—	—	—	5 614
Other non-current liabilities	—	—	—	—	—	1
Trade and other payables	—	—	—	—	—	769

Risk management is carried out by a central treasury department (Group treasury) under policies approved by the board of directors. Group treasury identifies, evaluates and hedges certain selected financial risks in close cooperation with the group's operating units. The audit and risk committee and the board provides written principles for overall risk management, as well as written policies covering specific areas, such as commodity price risk, foreign exchange risk, interest rate risk, credit risk, use of derivative financial instruments and non-derivative financial instruments, and the investment of excess liquidity.

MARKET RISK

Foreign exchange risk

The group operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the US dollar (US$). Foreign exchange risk arises when future commercial transactions or recognised assets or liabilities are denominated in a currency that is not the entity's functional currency. The majority of Harmony's revenues are sensitive to the R/US$ exchange rate as all revenues are generated by gold sales denominated in US$. Harmony may enter into hedging transactions to reduce this risk. The limit currently set by the board is 25% of the group's foreign exchange risk exposure for a period of 24 months. Refer to note 18 for details of the contracts. The audit and risk committee review the details of the programme quarterly.

The group is exposed to foreign exchange risk arising from borrowings and cash denominated in a currency other than the functional currency of that entity.

The group has reviewed its foreign currency exposure on financial assets and financial liabilities and has identified the following sensitivities for a 10% change in the exchange rate that would affect profit or loss. Management considers a range between 10% and 20% to be a reasonable change given the volatility in the market. The analysis has been performed on the same basis for 2018.

4 FINANCIAL RISK MANAGEMENT continued

MARKET RISK continued

Foreign exchange risk continued

	SA rand	
Figures in million	**2019**	2018
Sensitivity analysis - borrowings		
Rand against US$		
Balance at 30 June	**4 143**	5 114
Strengthen by 10%	**414**	511
Weaken by 10%	**(414)**	(511)
Closing rate	**14.13**	13.81
US$ against Kina		
Balance at 30 June	**283**	—
Strengthen by 10%	**26**	—
Weaken by 10%	**(31)**	—
Closing rate	**0.30**	0.30
Sensitivity analysis - financial instruments		
Rand against US$		
Balance at 30 June	**454**	(136)
Strengthen by 10%	**567**	666
Weaken by 10%	**(1 511)**	(625)
Closing rate	**14.13**	13.81
US$ against Kina		
Balance at 30 June	**211**	30
Strengthen by 10%	**19**	3
Weaken by 10%	**(23)**	(3)
Closing rate	**0.30**	0.30

Commodity price sensitivity

The profitability of the group's operations, and the cash flows generated by those operations, are affected by changes in the market price of gold, and in the case of Hidden Valley, silver as well. Harmony entered into rand gold and US dollar forward gold sale contracts to manage the variability in cash flows from the group's production, in order to create cash certainty and protect the group against lower commodity prices. The general limit for gold hedging currently set by the board is 20% for a 24-month period. In response to the increase in the rand gold price, this limit was temporarily increased to 24% just before year-end to accommodate additional hedging for certain more marginal operations. This increased limit normalises back to 20% by the end of the 2020 financial year. The limit set by the board is 50% of silver exposure over a 24-month period.

Management continues to top up these programmes as and when opportunities arise to lock in attractive margins for the business, but are not required to maintain hedging at these levels. The audit and risk committee review the details of the programme quarterly.

The exposure to the variability in the price of gold is managed by entering into gold forward sales contracts for a portion of the group's production. A portion of the production of the South African operations is linked to rand gold forward contracts and US$ gold forward contracts were entered into for the production from Hidden Valley. The exposure to the variability in the price of silver for Hidden Valley is managed by entering into US$/silver zero cost collars. These contracts have not been designated as hedging instruments for hedge accounting and the gains and losses are accounted for in the income statement.

4 FINANCIAL RISK MANAGEMENT continued

MARKET RISK continued

Commodity price sensitivity continued

Refer to note 18 and the fair value determination for financial assets and liabilities section below for further detail on these contracts.

The group has reviewed its exposure to commodity linked instruments and has identified the following sensitivities for a 10% change in the commodity price specified per contract that would affect other comprehensive income and profit or loss. Management considers a range between 10% and 20% to be a reasonable change given the recent volatility in the market. The analysis has been performed on the same basis for 2018.

	SA rand	
Figures in million	**2019**	2018
Sensitivity analysis		
Rand gold derivatives		
Profit or loss		
Increase by 10%	**(76)**	—
Decrease by 10%	**79**	—
Other comprehensive income		
Increase by 10%	**(1 162)**	(522)
Decrease by 10%	**1 174**	515
US$ gold derivatives		
Profit or loss		
Increase by 10%	**(20)**	(166)
Decrease by 10%	**20**	167
Other comprehensive income		
Increase by 10%	**(110)**	—
Decrease by 10%	**113**	—
US$ silver derivatives		
Profit or loss		
Increase by 10%	**—**	(14)
Decrease by 10%	**4**	15

Other price risk

The group is exposed to the risk of fluctuations in the fair value of fair value through profit or loss financial assets as a result of changes in market prices (other than changes in interest rates and foreign currencies). Harmony generally does not use any derivative instruments to manage this risk.

Sensitivity analysis

Certain of the restricted investments are linked to the Top 40 Index on the JSE. A 10% increase in the Top 40 index at the reporting date, with all other variables held constant, would have increased profit or loss by R76 million (2018: R42 million); an equal change in the opposite direction would have decreased profit or loss by R17 million (2018: R32 million).

4 FINANCIAL RISK MANAGEMENT continued

MARKET RISK continued

Interest rate risk

The group's interest rate risk arises mainly from long-term borrowings. The group has variable interest rate borrowings. Variable rate borrowings expose the group to cash flow interest rate risk. The group has not entered into interest rate swap agreements as this is a risk that management is prepared to take as the risk is deemed to be low. The audit and risk committee reviews the exposures quarterly.

Interest rate risk arising from long-term borrowings is offset by cash, restricted cash and restricted investments held at variable rates. A change of 100 basis points in interest rates at the reporting date would have increased/(decreased) profit or loss before tax by the amounts shown below. This analysis assumes that all other variables remain constant. The analysis has been performed on the same basis for 2018.

	SA rand	
Figures in million	**2019**	2018
Sensitivity analysis - borrowings (finance costs)		
Increase by 100 basis points	**(59)**	(56)
Decrease by 100 basis points	**59**	56
Sensitivity analysis - financial assets (interest received)		
Increase by 100 basis points	**44**	32
Decrease by 100 basis points	**(44)**	(32)

CREDIT RISK

Credit risk is the risk that a counterparty may default or not meet its obligations in a timely manner. Financial instruments, which subject the group to concentrations of credit risk, consist of restricted cash, restricted investments, derivative financial assets, trade and other receivables (excluding non-financial instruments) and cash and cash equivalents.

Assessment of credit risk

In April 2017, two of the three international rating agencies, Standard and Poor's (S&P) and Fitch, downgraded South Africa's long-term sovereign credit rating. Moody's has kept the sovereign credit risk of South Africa as investment grade. This was largely limited to international scale ratings, not the national scale ratings. The ratings have remained the same since then, with a change in outlook by Fitch from Stable to Negative in July 2019.

The group has identified the following risks as a result of this downgrade, which are:
- Increased credit risk;
- Increased cost of capital; and
- Difficulty in obtaining funding.

In assessing the credit worthiness of local institutions, management uses the national scale long-term ratings which are unchanged. Management will continue monitoring these ratings.

Exposure to credit risk on trade and other receivables is monitored on a regular basis. The credit risk arising from restricted cash, cash and cash equivalents, restricted investments and derivative financial assets is managed by ensuring amounts are only invested with financial institutions of good credit quality based on external credit ratings. The group has policies that limit the amount of credit exposure to any one financial institution. The audit and risk committee reviews the exposure on a quarterly basis.

The group’s maximum exposure to credit risk is represented by the carrying amount of all financial assets determined to be exposed to credit risk, amounting to R5 837 million as at 30 June 2019 (2018: R5 602 million).

The social plan trust fund of R28 million (2018: R33 million) has been invested in unit trusts comprising shares in listed companies.

4 FINANCIAL RISK MANAGEMENT continued

CREDIT RISK continued

Assessment of credit risk continued

Financial institutions' credit rating by exposure (Source: Fitch Ratings and Global Credit Ratings)

	SA rand	
Figures in million	**2019**	2018
Cash and cash equivalents		
AA	**671**	623
AA-	**322**	83
	993	706
Restricted cash		
AA	**109**	94
AA-	**27**	21
	136	115
Restricted investments (environmental trusts)		
AA+	**—**	1 498
AA	**3 273**	1 740
	3 273	3 238
Derivative financial assets		
AA+	**—**	130
AA	**393**	354
AA-	**69**	139
A+	**44**	—
	506	623

Expected credit loss assessment

The group recognises loss allowances for expected credit losses (ECLs) on financial assets measured at amortised cost. The group's debt instruments at amortised cost consist of cash and cash equivalents, restricted cash, a portion of restricted investments and trade and other receivables. The assessment of ECLs for the different debt instruments is discussed below:

Cash and cash equivalents
The cash and cash equivalents are held with banks and financial institutions which are rated AA- to AA (see above). The ECL on cash and cash equivalents has been determined using the simplification that allows the group to assume that the credit risk on financial instruments determined to have low credit risk at the reporting date, has not increased significantly since initial recognition of the financial instrument. The ECL was estimated with reference to a probability of default model using external credit ratings in determining the default risk of counterparites. The ECL was determined to be immaterial.

Restricted cash and investments
The restricted cash and investments relate largely to the environmental trust funds. These funds are held with banks and financial institutions which are rated AA- to AA (see above). Impairment of environmental trust funds has been determined using the simplification that allows the group to assume that the credit risk on financial instruments determined to have low credit risk at the reporting date, has not increased significantly since initial recognition of the financial instrument. The group considers that its environmental trust funds have low credit risk based on the external credit ratings of the counterparties with which the funds are deposited with. The ECL was estimated with reference to a probability of default model using external credit ratings in determining the default risk of counterparites.

4 FINANCIAL RISK MANAGEMENT continued

CREDIT RISK continued

Expected credit loss assessment continued

Restricted cash and investments continued
Concentration of credit risk on restricted cash and environmental trust funds is considered minimal due to the group's investment risk management and counterparty exposure risk management policies. The ECL was determined to be immaterial.

Trade and other receivables
The group's exposure to credit risk arising from trade receivables (metals) and other trade receivables is influenced mainly by the individual characteristics of each customer.

Trade receivables result largely from the sale of gold and are fully performing. Exposure to credit risk on receivables from gold sales is limited through payment terms of two to three days after recognition of revenue for gold sales. The majority of other receivables comprise of a limited number of individually significant customers. The group determines the ECL on trade receivables and individually significant other receivable balances with reference to a probability of default model using external credit ratings in determining the default risk of counterparites. The external credit ratings used range between BBB- to A+. The ECL was determined to be immaterial.

Loss allowances on individually insignificant other trade receivables has been determined using the simplified ECL approach using a provision matrix and reflects the short-term maturities of the exposures and past experienced credit judgement. Refer to note 19 for details on the amount of the loss allowance recognised and the stratification of trade and other receivables for purposes of the assessment.

LIQUIDITY RISK

Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, and the availability of funding through an adequate amount of committed credit facilities.

In the ordinary course of business, the group receives cash from its operations and is required to fund working capital and capital expenditure requirements. Management prepares cash flow forecasts weekly and ensures that surplus funds are invested in a manner to achieve market-related returns and to provide sufficient liquidity at the minimum risk. The group maintains and refinances committed credit facilities as medium-term forecasts require. The audit and risk committee reviews the updated forecasts quarterly. The group is able to actively source financing at competitive rates. Where necessary, funds will be drawn from its revolving credit facilities (refer to note 29).

The following are the undiscounted contractual maturities of financial liabilities (including principal and interest payments assuming the closing R/US$ exchange rate and interest rate at year end):

	SA rand	
Figures in million	Current	More than 1 year
2019		
Other non-current liabilities	—	2
Trade and other payables (excluding non-financial liabilities)	930	—
Derivative financial liabilities	280	194
Borrowings		
Due between 0 to six months	242	—
Due between six to 12 months	241	—
Due between one to two years	—	4 578
Due between two to four years	—	1 624
	1 693	**6 398**

4 FINANCIAL RISK MANAGEMENT continued

LIQUIDITY RISK continued

Figures in million	SA rand Current	SA rand More than 1 year
2018		
Other non-current liabilities	—	1
Trade and other payables (excluding non-financial liabilities)	769	—
Derivative financial liabilities	124	95
Borrowings		
Due between 0 to six months	702	—
Due between six to 12 months	—	—
Due between one to two years	—	584
Due between two to four years	—	5 002
	1 595	5 682

CAPITAL RISK MANAGEMENT

The primary objective of managing the group's capital is to ensure that there is sufficient capital available to support the funding requirements of the group, in a way that optimises the cost of capital and matches the current strategic business plan.

The group manages and makes adjustments to the capital structure, which consists of debt and equity, as and when borrowings mature or when funding is required. This may take the form of raising equity, market or bank debt or hybrids thereof. In doing so, the group ensures it stays within the debt covenants agreed with lenders. The group may also sell assets to reduce debt or schedule projects to manage the capital structure.

During the 2018 financial year the level of gearing increased with R4 021 million due to the funding required for the acquisition of the Moab Khotsong operations (refer to note 12). Notwithstanding, the group continues to follow a conservative approach to debt and prefers to maintain low levels of gearing.

Net debt is as follows:

Figures in million	SA rand 2019	SA rand 2018
Cash and cash equivalents	**993**	706
Borrowings	**(5 915)**	(5 614)
Net debt	**(4 922)**	(4 908)

There were no changes to the group's approach to capital management during the year.

4 FINANCIAL RISK MANAGEMENT continued

FAIR VALUE DETERMINATION FOR FINANCIAL ASSETS AND LIABILITIES

The fair value levels of hierarchy are as follows:
Level 1: Quoted prices (unadjusted) in active markets;
Level 2: Inputs other than quoted prices included within level 1 that are observable for the asset, either directly (that is, as prices) or indirectly (that is, derived from other prices);
Level 3: Inputs for the asset that are not based on observable market data (that is, unobservable inputs).

The following table sets out the group's assets and liabilities measured at fair value by level within the fair value hierarchy:

	SA rand			
Figures in million	**At 30 June 2019**		**At 30 June 2018**	
	Level 2	**Level 3**	**Level 2**	**Level 3**
Fair value through other comprehensive income				
Other non-current assets (a)	**—**	**59**	—	8
Fair value through profit or loss				
Restricted investments (b)	**1 256**	**—**	913	—
Derivative financial assets (c)	**507**	**—**	623	—
Derivative financial liabilities (c)	**(422)**	**—**	(215)	—
Other non-current assets (d)	**—**	**271**	—	—

(a) The increase in level 3 fair value measurement relates to the equity investment in Rand Mutual Assurance previously carried at cost. Refer to note 2. The fair value of the investment was estimated with reference to an independent valuation. The valuation was performed using a discounted cash flow model. In valuating the group's share of the business, common practice marketability and minority discounts as well as additional specific risk discounts were applied.

(b) The majority of the balance is directly derived from the Top 40 index on the JSE, and is discounted at market interest rate. This relates to equity-linked deposits in the group's environmental rehabilitation trust funds. The balance of the environmental trust funds are carried at amortised cost and therefore not disclosed here.

(c) The mark-to market remeasurement of the derivative contracts was determined as follows:
- Forex hedging contracts comprise of zero cost collars and FECs:
  The zero cost collars were valued using a Black-Scholes valuation technique derived from spot rand/US$ exchange rate inputs, implied volatilities on the rand/US$ exchange rate, rand/US$ inter-bank interest rates and discounted at market interest rate (zero-coupon interest rate curve). The value of the FECs is derived from the forward rand/US$ exchange rate and discounted at market interest rate (zero-coupon interest rate curve).
- Rand gold hedging contracts (forward sale contracts): spot Rand/US$ exchange rate, Rand and dollar interest rates (forward points), spot US$ gold price, differential between the US interest rate and gold lease interest rate which is discounted at market interest rate.
- US$ gold hedging contracts (forward sale contracts): spot US$ gold price, differential between the US interest rate and gold lease interest rate and discounted at market interest rate.
- Silver hedging contracts (zero cost collars): a Black-Scholes valuation technique, derived from spot US$ silver price, strike price, implied volatilities, time to maturity and interest rates and discounted at market interest rate.

(d) The increase in level 3 fair value measurement relates to the ARM BBEE loan that was previously carried at amortised cost. Refer to note 17. The fair value was calculated using a discounted cash flow model taking into account projected interest payments and the projected share price for African Rainbow Minerals Limited (ARM) on the expected repayment date.

The carrying values (less any impairment allowance) of short-term financial instruments are assumed to approximate their fair values.

The fair values of borrowings are not materially different to their carrying amounts since the interest payable on those borrowings is at floating interest rates. The fair value of borrowings are based on discounted cash flows using a current borrowing rate. The determination of the fair values are level 3 in the fair value hierarchy due to the use of unobservable inputs, including own credit risk.

5 REVENUE

ACCOUNTING POLICY

Revenue from metal sales include the sale of gold, silver and uranium. Revenue from metal sales is recognised when the group satisfies its performance obligations under its contract with the customer, by transferring such metals to the customer's control. Transfer of control is generally determined to be when risk and title to the metals passes to the customer. Revenue is measured based on the consideration specified in the contract with the customer and is driven by the quoted market prices of the metals.

The effective portion of gains or losses on the derivatives designated as cash flow hedging items (forecast sales transactions) are recognised in revenue when the forecast sales transactions occur. See the accounting policy for derivatives and hedging activities in note 2.

	SA rand		
Figures in million	**2019**	2018*	2017*
Revenue from contracts with customers	**26 459**	19 255	18 766
Gold	**25 693**	19 162	18 536
Silver[1]	**589**	74	230
Uranium[2]	**177**	19	—
Hedging gain[3]	**453**	1 197	728
Total revenue[4]	**26 912**	20 452	19 494

* Re-presented due to a change in accounting policy - refer to note 2 for detail.
[1] Derived from the Hidden Valley operation in Papua New Guinea.
[2] Derived from the Moab Khotsong operation.
[3] Relates to the realised effective portion of the hedge-accounted gold derivatives. Refer to note 18 for further information.
[4] A geographical analysis of revenue is provided in the segment report in note 37.

The points of transfer of control are as follows:

• Gold: South Africa	Gold is delivered and certificate of sale is issued.
• Gold and silver: Hidden Valley	For sales up to 13 February 2019: metal is delivered and metal account credited by the customer.
	Sales from 14 February 2019 onwards: metal is collected from Hidden Valley and a confirmation of collection is sent to and accepted by the customer.
• Uranium	Confirmation of transfer is issued.

6 COST OF SALES

	SA rand		
Figures in million	**2019**	2018*	2017*
Production costs (a)	**20 324**	15 084	15 042
Amortisation and depreciation of mining assets (b)	**3 961**	2 468	2 441
Amortisation and depreciation of assets other than mining assets (b)	**93**	102	78
Rehabilitation expenditure (c)	**33**	67	23
Care and maintenance costs of restructured shafts	**134**	128	109
Employment termination and restructuring costs (d)	**242**	208	74
Share-based payments (e)	**155**	244	391
Impairment of assets (f)	**3 898**	5 336	1 718
Other	**29**	(41)	(7)
Total cost of sales	**28 869**	23 596	19 869

* Re-presented due to a change in accounting policy - refer to note 2 for detail.

6 COST OF SALES continued

(a) Production costs include mine production and transport and refinery costs, applicable general administrative costs, movement in inventories and ore stockpiles, ongoing environmental rehabilitation costs and transfers for stripping activities. Employee termination costs are included, except for employee termination costs associated with major restructuring and shaft closures, which are separately disclosed.

Production costs increased during the 2019 year mainly due to the inclusion of Moab Khotsong (R2.4 billion increase) for the full year as well as continuing production at Hidden Valley (R1.6 billion) for the full year following the operation reaching commercial levels of production at the end of the 2018 financial year. Production costs for 2018 include R1.0 billion related to the Moab Khotsong operations and production costs related to Hidden Valley were R1.2 billion lower than 2017 due to the capitalisation of costs during the plant upgrade and the development of the stage 5 and 6 cut back.

Production costs, analysed by nature, consist of the following:

	SA rand		
Figures in million	**2019**	2018*	2017*
Labour costs, including contractors	**12 715**	9 750	9 006
Consumables	**5 532**	3 418	3 614
Water and electricity	**3 398**	2 551	2 316
Insurance	**126**	86	91
Transportation	**354**	121	177
Change in inventory	**(166)**	(211)	370
Capitalisation of mine development costs	**(1 880)**	(1 552)	(1 321)
Stripping activities[1]	**(1 197)**	(167)	(77)
Royalty expense	**193**	121	211
Other	**1 249**	967	655
Total production costs	**20 324**	15 084	15 042

* Re-presented due to a change in accounting policy - refer to note 2 for detail.
[1] Stripping activities increased as a result of Hidden Valley reaching commercial level of production during June 2018.

(b) Depreciation is higher for the 2019 year owing mainly to full year production at Hidden Valley (R1.6 billion increase) as well as Moab Khotsong (R178 million increase) included for the full year. Offsetting this are decreases year on year at Target 1 (R199 million) as well as Unisel and Masimong (R184 million) owing to the impact of the impairment that was recognised at the end of the 2018 year.

Amortisation and depreciation of assets other than mining assets includes the amortisation of intangible assets.

(c) For the assumptions used to calculate the rehabilitation costs, refer to note 25. This expense includes the change in estimate for the rehabilitation provision where an asset no longer exists as well as costs related to the rehabilitation process. For 2019, R86 million (2018: R94 million) (2017: R96 million) was spent on rehabilitation in South Africa. Refer to note 25.

(d) The employment termination and restructuring expenditure for 2019 and 2018 relate to the voluntary severance program in place to reduce labour costs. The 2017 amount includes contractor fees for the optimisation of the Hidden Valley operation of R61 million.

(e) Refer to note 33 for details on the share-based payment schemes implemented by the group. Due to the approval of the new management share plan, no new issue for the management share incentive scheme was made following the 2015 issue maturing in November 2018.

6 COST OF SALES continued

(f) An increase in the planned gold price was offset by an increase in costs (both working costs and capital expenditure), which was further compounded by the inclusion of carbon tax (effective 1 June 2019), in both the life-of-mine and resource base models. Although there was an increase in the overall group's net present value of the life-of-mine models, the revision of the areas included in certain of the resource base models resulted in lower grades which negatively impacted on the cash flows and ultimately the recoverable amounts. Refer to note 13 for further information. The impairment of assets consists of the following:

	SA rand		
Figures in million	**2019**	2018	2017
Tshepong Operations	**2 254**	988	255
Kusasalethu	**690**	579	678
Target 1	**312**	699	785
Target 3	**318**	—	—
Joel	**198**	160	—
Other mining assets	**120**	319	—
Bambanani	**6**	—	—
Doornkop	**—**	317	—
Unisel	**—**	487	—
Masimong	**—**	329	—
Target North	**—**	1 458	—
Total impairment of assets	**3 898**	5 336	1 718

The recoverable amounts for these assets have been determined on a fair value less costs to sell basis using the assumptions per note 13 in discounted cash flow models and attributable resource values. These are fair value measurements classified as level 3. The recoverable amounts of the CGUs where impairments were recognised as at 30 June 2019 are as follows:

	SA rand		
	Recoverable amount		
Figures in million	**Life-of-Mine plan**	**Resource base**	**Total**
Tshepong Operations The impairment is due to the increased costs to exploit the resource base as well as a lower expected recovered grade. The decrease in the recovery grade is as a result of the change in the dilution factors applied to the outside life of mine resources.	**3 811**	**2 055**	**5 866**
Kusasalethu The decrease in grade and increased estimated costs in the resource base resulted in a lower recoverable amount. The decrease in the recovery grade is as a result of the change in the dilution factors applied to the outside life of mine resources.	**1 297**	**—**	**1 297**
Target 1 The recoverable amount decreased as a result of increased costs and decrease in grade in the resource base together with the estimated impact of carbon tax. The increase in discount rate due to increased risk factors also negatively impacted on the recoverable amount.	**467**	**609**	**1 076**
Target 3 The operation remains under care and maintenance. A change in valuation method from discounted cash flow model to resource multiple approach reduced the recoverable amount.	**None**	**182**	**182**
Joel The increased capital costs in the resource base together with carbon tax negatively impacted the net present value of expected cash flows.	**765**	**87**	**852**
Other mining assets The updated life-of-mine plans for the CGUs in Freegold and Avgold resulted in the impairment of other mining assets.	**335**	**None**	**335**
Bambanani The impairment of goodwill reduced the carrying amount of intangible assets. As goodwill is not depreciated, it results in an impairment as the life of the operation shortens.	**763**	**None**	**763**

6 COST OF SALES continued

(f) Impairment continued

The recoverable amounts of the CGUs where impairments were recognised as at 30 June 2018 are as follows:

	SA rand		
	Recoverable amount		
Figures in million	Life-of-Mine plan	Resource base	Total
Tshepong Operations			
The impairment was mainly driven by sensitivity to fluctuations in the gold price. Furthermore the updated life-of-mine for the Tshepong operations presented a marginal decrease in recovered grade.	4 279	3 147	7 426
Kusasalethu			
Kusasalethu's old section of the mine at the operation was excluded in the FY19 life-of-mine plan.	1 019	1 119	2 138
Target 1			
Exploration drilling results during the year pointed towards lower grade estimates within certain blocks that have now been excluded from the life-of-mine plans.	471	746	1 217
Joel			
The updated life-of-mine for the Joel operation presented a marginal decrease in recovered grade.	540	336	876
Other mining assets			
The updated life-of-mine plans for the CGUs in Freegold and Harmony resulted in the impairment of other mining assets.	366	None	366
Doornkop			
The impairment of Doornkop is primarily as a result of a decrease in the Kimberley Reef's resource values.	1 552	1 178	2 730
Unisel			
Excluded the Leader Reef from the life-of-mine plan to focus on the higher grade Basal Reef. This reduced the life-of-mine from four years to eighteen months.	38	None	38
Masimong			
The impairment at Masimong was as a result of the depletion of the higher grade B Reef and subsequent reduced life-of-mine.	58	None	58
Target North			
The impairment of Target North was as a result of a decrease in resource values.	None	3 681	3 681

The recoverable amounts of the CGUs where impairments were recognised as at 30 June 2017 are as follows:

	SA rand		
	Recoverable amount		
Figures in million	Life-of-Mine plan	Resource base	Total
Tshepong Operations			
The impairment was mainly driven by the restriction on hoisting capacity at Phakisa along with the general pressure on margins.	4 931	2 849	7 780
Target 1			
Information gained from the underground drilling during the year indicated that some areas of the bottom reef of the Dreyerskuil are highly channelised, which negatively impacted on the overall grade for the operation. These areas were subsequently excluded from the life-of-mine plan. This, together with the general pressure on margins, reduced the profitability of the operation over its life and contributed to the decrease in the recoverable amount.	867	1 129	1 996
Kusasalethu			
The impairment was driven by a reduction in the additional attributable resource value as a result of a decrease in the ounces. The company investigated the viability of a decline to extend the life. The business case showed that the option was not feasible and therefore the resource ounces were reduced.	1 240	1 543	2 783

There was no reversal of impairment for the 2019, 2018 or 2017 financial years.

7 OTHER OPERATING EXPENSES

Figures in million	SA rand 2019	2018	2017
Profit on sale of property, plant and equipment	**(5)**	(2)	(42)
Social investment expenditure	**155**	73	74
Loss on scrapping of property, plant and equipment (a)	**21**	1	140
Foreign exchange translation (gain)/loss (b)	**86**	682	(194)
Silicosis settlement provision/(reversal of provision) (c)	**(62)**	(68)	917
Provision/(reversal of provision) for ARM BBEE Trust loan (d)	**—**	(43)	13
Other (income)/expenses - net	**(9)**	24	(22)
Total other operating expenses	**186**	667	886

(a) These losses arise from the derecognition of property, plant and equipment that are no longer in use. No future economic benefits are expected from the use or disposal of these assets. The amount in 2017 relates to the abandonment of individual surface assets that were no longer core to the group's business.

(b) The majority of the foreign exchange gains and losses relates to the US$ borrowings. Refer to note 29 for more details.

(c) Refer to note 26 for details on the movement in the silicosis settlement provision.

(d) Pursuant to the adoption of IFRS 9 on 1 July 2018 (refer to note 2), the ARM BBEE Trust loan is carried at fair value through profit or loss with movement in fair value recognised in net gains on financial instruments (refer to note 8). In 2018, the provision was reversed following an increase in African Rainbow Minerals Limited's share price and dividends paid in the period between July 2017 and June 2018, which form part of the recoverability test at 30 June 2018. Refer to note 17 for further details on the loan.

8 INVESTMENT INCOME

ACCOUNTING POLICY

Interest income is recognised on the effective interest method, taking into account the principal outstanding and the effective rate over the period to maturity, when it is determined that such income will accrue to the group. Dividend income is recognised when the shareholder's right to receive payment is established. This is recognised at the last date of registration.

Cash flows from interest and dividends received are classified under operating activities in the cash flow statement.

Figures in million	SA rand 2019	2018	2017
Interest income from financial assets at amortised cost	**244**	272	264
Net gain on financial instruments[1]	**64**	71	4
Total investment income	**308**	343	268

[1] Primarily relates to the environmental trust funds and the social trust fund (refer to note 16) and also includes the fair value movement of the ARM BBEE Trust loan (refer to note 17).

9 FINANCE COSTS

ACCOUNTING POLICY

Borrowing costs are capitalised to the extent that they are directly attributable to the acquisition and construction of qualifying assets. Qualifying assets are assets that take a substantial time to get ready for their intended use. These costs are capitalised until the asset moves into the production phase. Other borrowing costs are expensed. The foreign exchange translation loss is included in the borrowing cost calculation to the extent that it is considered to be a part of interest.

9 FINANCE COSTS continued

	SA rand		
Figures in million	**2019**	2018	2017
Financial liabilities			
Borrowings	**402**	227	110
Other creditors and liabilities	**2**	1	—
Total finance costs from financial liabilities	**404**	228	110
Non-financial liabilities			
Post-retirement benefits	**17**	18	16
Time value of money component of silicosis provision	**79**	76	—
Time value of money and inflation component of rehabilitation costs	**208**	191	173
Total finance costs from non-financial liabilities	**304**	285	189
Total finance costs before interest capitalised	**708**	513	299
Interest capitalised (a)	**(133)**	(183)	(65)
Total finance costs	**575**	330	234

(a) The capitalisation rate used to determine capitalised borrowing costs is:

	2019	2018	2017
	%	%	%
Capitalisation rate	**10.4%**	10.5%	4.2%

The change in the rate from 2017 to 2018 is due to the effect of the foreign exchange translation loss in 2018 compared with a gain of 2017 on the calculation of the rate.

10 TAXATION

ACCOUNTING POLICY

Taxation is made up of current and deferred taxation. The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date in the countries where the group operates and generates taxable income.

Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred taxation is recognised on temporary differences existing at each reporting date between the tax base of all assets and liabilities and their carrying amounts. Substantively enacted tax rates are used to determine future anticipated effective tax rates which in turn are used in the determination of deferred taxation, except to the extent that deferred tax arises from the initial recognition of an asset or liability in a transaction that is not a business combination and does not affect the accounting or taxable profit or loss at the time of the transaction. Deferred tax is charged to profit or loss, except where the tax relates to items recognised in other comprehensive income or directly in equity in which case the tax is also recognised in other comprehensive income or directly in equity. The effect on deferred tax of any changes in tax rates is recognised in the income statement, except to the extent that it relates to items previously charged or credited directly to equity.

The principal temporary differences arise from amortisation and depreciation on property, plant and equipment, provisions, unutilised tax losses, unutilised capital allowances carried forward and unrealised gains and losses on the gold forward sale contracts. Deferred tax assets relating to the carry forward of unutilised tax losses and unutilised capital allowances are recognised to the extent that it is probable that future taxable profit will be available against which the unutilised tax losses and unutilised capital allowances can be utilised. The recoverability of these assets is reviewed at each reporting date and adjusted if recovery is no longer probable.

10 TAXATION continued

ACCOUNTING POLICY continued

Deferred income tax is provided on temporary differences arising from investments in subsidiaries, joint ventures and associates, except where the timing of the reversal of the temporary difference is controlled by the group and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income tax assets and liabilities relate to income taxes levied by the same taxation authority on either the taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The group is subject to income tax in several jurisdictions. Significant judgement is required in determining the worldwide provision for income taxes. There are many transactions and calculations for which the ultimate tax determination is uncertain during the ordinary course of business. Where the final tax outcome is different from the amounts that were initially recorded, such differences will impact the income tax and deferred tax provisions in the period in which such determination is made.

Management has to exercise judgement with regard to deferred tax assets. Where the possibility exists that no future taxable income may flow against which these assets can be offset, the deferred tax assets are not recognised.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realised or the liability is settled. When different tax rates apply to different levels of taxable income, deferred tax assets and liabilities are measured using the average tax rates that are expected to apply to the taxable profit (tax loss) of the periods in which the temporary differences are expected to reverse. At the group's South African operations, such average tax rates are directly impacted by the profitability of the relevant mine. The deferred tax rate is therefore based on the current estimate of future profitability of an operation when temporary differences will reverse, based on tax rates and tax laws that have been enacted at the balance sheet date. The future profitability of each mine, in turn, is determined by reference to the life-of-mine (LoM) plan for that operation. The LoM plan is influenced by factors as disclosed in note 13, which may differ from one year to the next and normally result in the deferred tax rate changing from one year to the next.

The taxation (expense)/credit for the year is as follows:

	SA rand		
Figures in million	**2019**	2018	2017
SA taxation			
Mining tax (a)	**(19)**	(42)	(230)
- current year	**(14)**	(42)	(230)
- prior year	**(5)**	—	—
Non-mining tax (b)	**(124)**	(163)	(258)
- current year	**(121)**	(163)	(256)
- prior year	**(3)**	—	(2)
Deferred tax (c)	**282**	439	998
- current year	**282**	439	998
Total taxation (expense)/credit	**139**	234	510

(a) Mining tax on gold mining taxable income in South Africa is determined according to a formula, based on the taxable income from mining operations. 5% of total revenue is exempt from taxation while the remainder is taxable at a higher rate (34%) than non-mining income (28%) as a result of applying the gold mining formula. Mining and non-mining income of Australian entities and PNG operation are taxed at a standard rate of 30%.

All qualifying mining capital expenditure is deducted from taxable mining income to the extent that it does not result in an assessed loss. Accounting depreciation is eliminated when calculating the South African mining tax income. Excess capital expenditure is carried forward as unredeemed capital to be claimed from future mining taxable income. The group has several tax paying entities in South Africa. In terms of the mining ring-fencing application, each ring-fenced mine is treated separately and deductions can normally only be utilised against mining income generated from the relevant ring-fenced mine.

10 TAXATION continued

(b) Non-mining taxable income of mining companies and the taxable income for non-mining companies are taxed at the statutory corporate rate of 28%.The expense relates to non-mining tax arising from derivative gains (realised and unrealised) recognised on the foreign currency derivatives as well as the realised gains on the commodity forward sale contracts. Refer to note 18 for details on the group's derivative gains recorded.

(c) The deferred tax rate used to calculate deferred tax is based on the current estimate of future profitability when temporary differences will reverse based on tax rates and tax laws that have been enacted at the balance sheet date. Depending on the profitability of the operations, the deferred tax rate can consequently be significantly different from year to year.

The deferred tax credit in the 2019, 2018 and 2017 years is mainly a result of the impairment of assets, a decrease in the weighted average deferred tax rate due to reduced estimated profitability at South African operations, as well as the provision for silicosis settlement raised in 2017.

INCOME AND MINING TAX RATES

The tax rate remains unchanged for the 2017, 2018 and 2019 years.

Major items causing the group's income tax provision to differ from the South African mining statutory tax rate of 34% were:

	SA rand		
Figures in million	**2019**	2018	2017
Tax on net loss at the mining statutory tax rate	**934**	1 600	50
Non-allowable deductions	**(241)**	(513)	(77)
Gain on bargain purchase	**—**	—	288
Share-based payments	**(70)**	(104)	(104)
Impairment of assets	**(2)**	(219)	(87)
Exploration expenditure	**(36)**	(74)	(50)
Finance costs	**(68)**	(54)	(37)
Other	**(65)**	(62)	(87)
Movement in temporary differences related to property, plant and equipment	**(1 388)**	(1 248)	(1 080)
Movements in temporary differences related to other assets and liabilities	**98**	55	52
Difference between effective mining tax rate and statutory mining rate on mining income	**(175)**	(550)	129
Difference between non-mining tax rate and statutory mining rate on non-mining income	**19**	35	55
Effect on temporary differences due to changes in effective tax rates[1]	**83**	675	968
Prior year adjustment	**(8)**	—	7
Capital allowances[2]	**684**	604	536
Deferred tax asset not recognised[3]	**133**	(424)	(130)
Income and mining taxation	**139**	234	510
Effective income and mining tax rate (%)	**5**	5	347

[1] This mainly relates to movements in the deferred tax rate related to Harmony (10.5% to 25.7%) (2018: 19.4% to 10.5%) (2017: 21.1% to 19.4%), Freegold (8.7% to 8.1%) (2018: 12.5% to 8.7%) (2017: 20.0% to 12.5%) and Randfontein Estates Limited (Randfontein) (1.8% to 4.5%) (2018: 3.8% to 1.8%) (2017: 10.1% to 3.8%).
[2] This relates to the additional capital allowance that may be deducted from taxable income from mining operations in South Africa. A significant portion relates to Avgold Limited (Avgold) which has a 0% effective tax rate.
[3] This relates to tax losses and deductible temporary differences for which future taxable profits are uncertain and are not considered probable.

10 TAXATION continued

DEFERRED TAX

The analysis of deferred tax assets and liabilities is as follows:

	SA rand	
Figures in million	**2019**	2018*
Deferred tax assets	**(549)**	(388)
Deferred tax asset to be recovered after more than 12 months	**(49)**	(52)
Deferred tax asset to be recovered within 12 months	**(500)**	(336)
Deferred tax liabilities	**1 237**	1 533
Deferred tax liability to be recovered after more than 12 months	**1 125**	1 385
Deferred tax liability to be recovered within 12 months	**112**	148
Net deferred tax liability	**688**	1 145

* Re-presented due to the change in the final purchase price allocation related to the Moab Khotsong acquisition. Refer to note 12 for detail.

Deferred tax liabilities and assets on the balance sheet as of 30 June 2019 and 30 June 2018 relate to the following:

	SA rand	
Figures in million	**2019**	2018
Gross deferred tax liabilities	**1 237**	1 533
Amortisation and depreciation	**1 229**	1 440
Derivative assets	**—**	90
Other	**8**	3
Gross deferred tax assets	**(549)**	(388)
Unredeemed capital expenditure	**(4 044)**	(4 266)
Provisions, including non-current provisions	**(844)**	(680)
Derivative financial instruments	**(87)**	—
Tax losses	**(1 209)**	(758)
Deferred tax asset not recognised[1]	**5 635**	5 316
Net deferred tax liability	**688**	1 145

[1] The majority of the deferred tax asset not recognised (2019: R5 293 million (2018: R5 109 million)) relates to Harmony's PNG operations.

Movement in the net deferred tax liability recognised in the balance sheet as follows:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**1 145**	1 702
Credit per income statement	**(282)**	(439)
Tax directly charged to other comprehensive income	**(176)**	(193)
Moab Khotsong acquisition	**—**	75
Balance at end of year	**688**	1 145

10 TAXATION continued

DEFERRED TAX continued

	SA rand	
Figures in million	**2019**	2018
As at 30 June, the group had the following potential future tax deductions:		
Unredeemed capital expenditure available for utilisation against future mining taxable income[1]	**39 725**	38 711
Tax losses carried forward utilisable against mining taxable income[2]	**5 494**	4 334
Capital Gains Tax (CGT) losses available to be utilised against future CGT gains[4]	**571**	571
As at 30 June, the group has not recognised the following deferred tax asset amounts relating to the above:	**12 935**	12 215
The unrecognised temporary differences are:		
Unredeemed capital expenditure[3]	**35 038**	34 021
Tax losses[2]	**5 109**	4 196
CGT losses[4]	**571**	571

[1] Includes Avgold R19 086 million (2018: R16 991 million), Randfontein R2 134 million (2018: R2 163 million), Moab Khotsong R1 755 million (2018: R2 091 million) and Hidden Valley R16 333 million (2018: R17 030 million). These have an unlimited carry-forward period.
[2] Relates mainly to Hidden Valley and the PNG exploration operations. These have an unlimited carry-forward period.
[3] Relates to Avgold and Hidden Valley.
[4] The CGT losses relate to the gross CGT losses available to be utilised against future CGT gains.

DIVIDEND TAX (DT)

The withholding tax on dividends remained unchanged at 20%.

11 EARNINGS/(LOSS) PER SHARE

BASIC EARNINGS/(LOSS) PER SHARE

Basic earnings/(loss) per share is calculated by dividing the net income attributable to shareholders by the weighted number of ordinary shares in issue during the year.

	2019	2018	2017
Ordinary shares in issue ('000)	**539 841**	500 252	439 957
Adjustment for weighted number of ordinary shares in issue ('000)	**(12 974)**	(54 304)	(1 077)
Weighted number of ordinary shares in issue ('000)	**526 867**	445 948	438 880
Treasury shares ('000)	**(3 058)**	(52)	(437)
Basic weighted average number of ordinary shares in issue ('000)	**523 809**	445 896	438 443

	SA rand		
	2019	2018	2017
Total net earnings/(loss) attributable to shareholders (millions)	**(2 607)**	(4 473)	362
Total basic earnings/(loss) per share (cents)	**(498)**	(1 003)	82

DILUTED EARNINGS/(LOSS) PER SHARE

For diluted earnings/(loss) per share, the weighted average number of ordinary shares in issue is adjusted to assume conversion of all potential dilutive ordinary shares as a result of share options granted to employees under the share option schemes in issue. A calculation is performed to determine the number of shares that could have been acquired at fair value, determined as the average annual market share price of the company's shares, based on the monetary value of the subscription rights attached to the outstanding share options. The number of shares calculated as above is compared with the number of shares that would have been issued assuming the exercise of the share options.

11 EARNINGS/(LOSS) PER SHARE continued

DILUTED EARNINGS/(LOSS) PER SHARE continued

	2019	2018	2017
Weighted average number of ordinary shares in issue ('000)	**523 809**	445 896	438 443
Potential ordinary shares[1] ('000)	**9 537**	19 423	20 777
Weighted average number of ordinary shares for diluted earnings per share[1] ('000)	**533 346**	465 319	459 220

	SA rand		
	2019	2018	2017
Total diluted earnings/(loss) per share (cents)[2]	**(500)**	(1 004)	79

[1] Due to the net loss attributable to shareholders in 2019, the inclusion of the share options as potential ordinary shares had an anti-dilutive (2018: anti-dilutive and 2017: dilutive) effect on the loss (2018: loss and 2017: earnings) per share and were therefore not taken into account in the current year calculation. The issue price and the exercise price of share options issued to employees include the fair value of any service to be supplied to the entity in the future under the share option or other share-based payment arrangement.
[2] The dilution is as a result of the potential reduction in earnings attributable to equity holders of the parent company as a result of the exercise of the Tswelopele Beneficiation Operation (TBO) option.TBO contributed a profit and therefore the reduction in earnings attributable to Harmony would increase the loss and loss per share.

DIVIDENDS

ACCOUNTING POLICY

Dividends declared are recognised in the period in which they are approved by the board of directors. Dividends are payable in South African rand.

Cash flows from dividends paid are classified under financing activities in the cash flow statement.

- On 17 August 2017, the board declared a final dividend of 35 cents cents for the year ended 30 June 2017. R154 million was paid on 16 October 2017.
- On 31 January 2017, the board declared an interim dividend of 50 cents. R221 million was paid on 20 March 2017.
- On 15 August 2016, the board declared a final dividend of 50 cents for the year ended 30 June 2016. R218 million was paid on 19 September 2016.

	SA rand		
	2019	2018	2017
Dividend declared (millions)	**—**	154	439
Dividend per share (cents)	**—**	35	100

12 ACQUISITIONS AND BUSINESS COMBINATIONS

ACQUISITION OF THE MOAB KHOTSONG OPERATIONS

Effective 1 March 2018 the group acquired the Moab Khotsong and Great Noligwa mines and related infrastructure as well as gold-bearing tailings and the Nufcor uranium plant (collectively the Moab Khotsong operations) from AngloGold Ashanti Limited on a going concern basis. The addition of the Moab Khotsong operations increased the group's production ounces, free cash flows and average underground gold recovery grade. The combined assets acquired and liabilities assumed constitute a business as defined by IFRS 3, *Business Combinations*.

The cash consideration paid to acquire the Moab Khotsong operations amounted to R3 474 million ($300 million). The group incurred acquisition-related costs of R98 million on advisory and legal fees. These costs are recognised as acquisition-related costs in the income statement. Furthermore, the group incurred R63 million on the integration of the operation in 2018 and R8 million in 2019. These costs are recognised as corporate, administration and other expenditure in the income statement for the year ended 30 June 2018.

12 ACQUISITIONS AND BUSINESS COMBINATIONS continued

ACQUISITION OF THE MOAB KHOTSONG OPERATIONS continued

Identifiable assets acquired and liabilities assumed

For the year ended 30 June 2018, the purchase price allocation (PPA) was initially prepared on a provisional basis in accordance with IFRS 3. Subsequent to the issue of the 2018 financial statements, the PPA was finalised and the final amounts of the identifiable assets acquired and liabilities assumed are reported below. A decrease of R32 million was made to the mineral right value capitalised following the finalisation of the effective date tax values and deferred tax calculation. This increased the amount of goodwill recognised as part of the acquisition. The comparative figures as at 30 June 2018 have been re-presented for this change.The measurement period has now closed and the accounting for the acquisition has been concluded.

The fair value of the identifiable net assets acquired was determined on the expected discounted cash flows based on the life-of-mine plans of the Moab Khotsong operations at post-tax real discount rates ranging between 8.20% and 11.30%, exchange rates ranging between R/US$11.86 and R/US$15.82, gold prices ranging between $1 249/oz and $1 302/oz and uranium prices ranging between $30.44/lb and $37.47/lb. The valuation was performed as at 1 March 2018.

The fair values as at the effective date are as follows:

	SA rand	
Figures in million	**2019**	2018
Property, plant and equipment	—	3 691
Environmental rehabilitation trust funds	—	382
Inventories	—	72
Deferred tax liabilities	—	(75)
Provision for environmental rehabilitation	—	(663)
Retirement benefit obligation	—	(10)
KOSH decant provision (refer to note 28)	—	(37)
Leave liabilities	—	(140)
Other payables	—	(48)
Fair value of net identifiable assets acquired	—	3 172

Goodwill

Goodwill arising from the acquisition has been recognised as follows:

	SA rand	
Figures in million	**2019**	2018
Consideration paid	—	3 474
Fair value of net identifiable assets acquired	—	(3 172)
Goodwill	—	302

The goodwill has been allocated to the Moab Khotsong operations. The goodwill is attributable mainly to the skills and technical talent of the Moab Khotsong operations' work force. None of the goodwill recognised is deductible for tax purposes.

ACQUISITION OF FULL OWNERSHIP OF HIDDEN VALLEY

The group had a 50% interest in certain mining and exploration assets located in the Morobe province, PNG. Newcrest Mining Limited (Newcrest) owned the remaining 50% interest in these assets. The assets included the Hidden Valley mine and the Wafi-Golpu project. On 19 September 2016 Harmony announced the agreement to purchase Newcrest PNG 1 Ltd, the wholly owned subsidiary of Newcrest which held Newcrest's 50% interest in the Hidden Valley joint venture, for a cash consideration of US$1. As part of the transaction, Newcrest made a once-off contribution of $22.5 million (R309 million) towards Hidden Valley's future estimated environmental liability. The transaction was conditional upon certain regulatory approvals which were obtained on 25 October 2016 and Harmony gained control over Hidden Valley from this date.

The step-up transaction from joint control to control has been accounted for in terms of IFRS 3.

As a result of the acquisition of Hidden Valley, a gain on bargain purchase of R848 million was recognised in 2017. The gain on bargain purchase is calculated as the difference between the consideration paid of US$1 and the fair value of the net identifiable assets acquired of R848 million.

13 PROPERTY, PLANT AND EQUIPMENT

	SA rand	
Figures in million	**2019**	2018*
Mining assets	**20 549**	24 203
Mining assets under construction	**2 964**	2 528
Undeveloped properties	**3 965**	3 974
Other non-mining assets	**271**	264
Total property, plant and equipment	**27 749**	30 969

* Re-presented due to the change in the final purchase price allocation related to the Moab Khotsong acquisition. Refer to note 12 for detail.

MINING ASSETS

ACCOUNTING POLICY

Mining assets including mine development costs and mine plant facilities are initially recorded at cost, where after they are measured at cost less accumulated depreciation and impairment. Costs include expenditure that is directly attributable to the acquisition of the items. Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the group and the cost of the item can be measured reliably.

The net assets of operations placed on care and maintenance are impaired to their recoverable amount. Expenditure on the care and maintenance of these operations is charged against income, as incurred. Mineral and surface use rights represent mineral and surface use rights for parcels of land both owned and not owned by the group.

Mineral and surface rights include acquired mineral use rights in production, development and exploration phase properties. The amount capitalised related to a mineral and surface right, either as an individual asset purchase or as part of a business combination, is the fair value at acquisition.

The group's mineral use rights are enforceable regardless of whether proved or probable reserves have been established. In certain limited situations, the nature of use changes from an exploration right to a mining right upon the establishment of proved and probable reserves. The group has the ability and intent to renew mineral use rights where the existing term is not sufficient to recover all identified and valued proved and probable reserves and/or undeveloped mineral interests.

Depreciation

Depreciation of mining assets is computed principally by the units-of-production method over life-of-mine based on estimated quantities of economically recoverable proved and probable reserves, which can be recovered in future from known mineral deposits.

In most instances, proved and probable reserves provide the best indication of the useful life of the group's mines (and related assets). However, in some instances, proved and probable reserves may not provide a realistic indication of the useful life of the mine (and related assets). This may be the case, for example, where management is confident that further inferred resources will be converted into measured and indicated resources and if they are economically recoverable, they can also be classified as proved and probable reserves. Management is approaching economic decisions affecting the mine on this basis, but has chosen to delay the work required to designate them formally as reserves.

In assessing which resources to include so as to best reflect the useful life of the mine, management considers resources that have been included in the life-of-mine plan. To be included in the life-of-mine plan, resources need to be above the cut-off grade set by management, which means that the resource can be economically mined and is therefore commercially viable. This consistent systematic method for inclusion in the life-of-mine plan takes management's view of the gold price, exchange rates as well as cost inflation into account.

In declaring the resource, management would have had to obtain a specified level of confidence of the existence of the resource through drilling as required by the South African Code for Reporting Exploration Results, Mineral Resources and Mineral Reserves (SAMREC).

Additional confidence in the existence, commercial viability and economical recovery of such resources may be based on historical experience and available geological information, such as geological information obtained from other operations that are contiguous to the group's as well as where the group mines continuations of these other operations' orebodies and reefs. This is in addition to the drilling results obtained by the group and management's knowledge of the geological setting of the surrounding areas, which would enable simulations and extrapolations to be done with a reasonable degree of accuracy.

13 PROPERTY, PLANT AND EQUIPMENT continued

MINING ASSETS continued

ACCOUNTING POLICY continued

Depreciation continued

In instances where management is able to demonstrate the economic recovery of such resources with a high level of confidence, such additional resources, which may also include certain, but not all, of the inferred resources, as well as the associated future development costs of accessing those resources, are included in the calculation of depreciation. The future development costs are those costs that need to be incurred to access these inferred resources, for example the costs to complete a decline or level, which may include infrastructure and equipping costs. These amounts have been extracted from the cash flow projections for the life-of-mine plans.

Mineral rights associated with production phase mineral interests are amortised over the life of mine using the units-of-production method in order to match the amortisation with the expected underlying future cash flows.

Impairment

Testing for impairment is done in terms of the group policy as discussed in note 2.5.

Stripping activities

The removal of overburden and other mine waste materials is often necessary during the initial development of a mine site, in order to access the mineral ore deposit. The directly attributable cost of this activity is capitalised in full within mining assets under construction, until the point at which the mine is considered to be capable of commercial production.

The removal of waste material after the point at which a mine is capable of commercial production is referred to as production stripping.

When the waste removal activity improves access to ore extracted in the current period, the costs of production stripping are charged to the income statement as operating costs in accordance with the principles of IAS 2, *Inventories*.

Where production stripping activity both produces inventory and improves access to ore in future periods the associated costs of waste removal are allocated between the two elements. The portion which benefits future ore extraction is capitalised within stripping and development capital expenditure. If the amount to be capitalised cannot be specifically identified it is determined based on the volume of waste extracted compared with expected volume for the identified component of the orebody. Components are specific volumes of a mine's orebody that are determined by reference to the life-of-mine plan.

In certain instances significant levels of waste removal may occur during the production phase with little or no associated production. The cost of this waste removal is capitalised in full.

All amounts capitalised in respect of waste removal are depreciated using the units-of-production method based on proved and probable ore reserves of the component of the orebody to which they relate.

The effects of changes to the life-of-mine plan on the expected cost of waste removal or remaining reserves for a component are accounted for prospectively as a change in estimate.

Scrapping of assets

Where significant adverse changes have taken place relating to the useful life of an asset, that asset is tested for impairment in terms of the group policy as discussed in note 2.5. Whether or not an impairment is recognised, it is then necessary to review the useful lives and residual values of the assets within the CGU – this is reviewed at least annually. Where necessary, the useful lives and residual values of the individual assets are revised.

Where the useful life of an asset is nil as a result of no future economic benefit expected from the use or disposal of that asset, it is necessary to derecognise the asset. The loss arising from the derecognition is included in profit or loss in the period in which the asset was derecognised.

13 PROPERTY, PLANT AND EQUIPMENT continued

MINING ASSETS continued

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS – GOLD MINERAL RESERVES AND RESOURCES

Gold mineral reserves and resources are estimates of the amount of ounces that can be economically and legally extracted from the group's properties. In order to calculate the gold mineral reserves and resources, estimates and assumptions are required about a range of geological, technical and economic factors, including quantities, grades, production techniques, recovery rates, production costs, commodity prices and exchange rates.

Estimating the quantities and/or grade of the reserves and resources requires the size, shape and depth of the orebodies to be determined by analysing geological data such as the logging and assaying of drill samples. This process may require complex and difficult geological judgements and calculations to interpret the data.

Because the economic assumptions used to estimate the gold mineral reserves and resources change from year to year, and because additional geological data is generated during the course of operations, estimates of the mineral reserves and resources may change from year to year. Changes in the reserves and resources may affect the group's financial results and financial position in a number of ways, including:

- Asset carrying values may be affected due to changes in estimated cash flows;
- Scrapping of assets to be recorded in the income statement following the derecognition of assets as no future economic benefit expected;
- Depreciation and amortisation charged in the income statement may change as they are calculated on the units-of-production method;
- Environmental provisions may change as the timing and/or cost of these activities may be affected by the change in mineral reserves; and
- Useful life and residual values may be affected by the change in mineral reserves.

At the end of each financial year, the estimate of proved and probable gold mineral reserves and resources is updated. Depreciation of mining assets is prospectively adjusted, based on these changes.

SENSITIVITY ANALYSIS - GOLD MINERAL RESERVES AND RESOURCES EFFECT ON DEPRECIATION

The group includes certain inferred resources in the denominator and future development costs in the numerator when performing the depreciation calculation for certain of its operations, where proved and probable reserves alone do not provide a realistic indication of the useful life of mine (and related assets). During periods presented, this mainly related to Doornkop. Had the group only used proved and probable reserves in its calculations, depreciation for 2019 would have amounted to R4 116 million (2018: R2 753 million) (2017: R2 727 million), compared with the reported totals of R4 054 million (2018: R2 570 million) (2017: R2 519 million).

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS – PRODUCTION START DATE

Various relevant criteria are considered in order to assess when the mine is substantially complete and ready for its intended use and moves into the production phase. Some of the criteria would include but are not limited to the following:

- The level of capital expenditure compared to the total project cost estimates;
- The ability to produce gold in a saleable form (where more than an insignificant amount of gold has been produced); and
- The ability to sustain the ongoing production of gold.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS – STRIPPING ACTIVITIES

The determination of the volume of waste extracted and the expected volume for the identified component of the orebody is dependent on an individual mine's design and life-of-mine plan and therefore changes to the design or life-of-mine plan will result in changes to these estimates. Identification of the components of a mine's orebody is made by reference to the life-of-mine plan. The assessment depends on a range of factors including each mine's specific operational features and materiality.

13 PROPERTY, PLANT AND EQUIPMENT continued

MINING ASSETS continued

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS – IMPAIRMENT OF ASSETS

The recoverable amount of mining assets is generally determined utilising real discounted future cash flows. Management also considers such factors as the quality of the individual orebody, market risk, asset specific risks and country risk in determining the fair value.

Key assumptions for the calculations of the mining assets' recoverable amounts are the commodity prices, resource values, marketable discount rates, costs to sell, exchange rates and the annual life-of-mine plans. In determining the commodity prices and resource values to be used, management assesses the long-term views of several reputable institutions on commodity prices and based on this, derives the commodity prices and resource values.

The life-of-mine plans are based on the proved and probable reserves as included in the Reserve Declaration, which are determined in terms of SAMREC, as well as resources where management has high confidence in the orebody and economical recovery of gold, based on historic and similar geological experience.

During the year under review, the group calculated the recoverable amounts (generally fair value less costs to sell) based on updated life-of-mine plans and the following gold price, silver price and exchange rates assumptions:

	2019	2018	2017
US$ gold price per ounce			
– Year 1	**1 325**	1 250	1 200
– Year 2	**1 310**	1 250	1 200
– Long term (year 3 onwards)	**1 290**	1 250	1 200
US$ silver price per ounce			
– Year 1 and year 2	**15.75**	17.00	17.00
– Long term (year 3 onwards)	**17.00**	17.00	17.00
Exchange rate (R/US$)			
– Year 1	**14.43**	13.30	13.61
– Year 2	**14.25**	13.30	13.61
– Long term (year 3 onwards)	**14.11**	13.30	13.61
Exchange rate (PGK/US$)	**3.34**	3.17	3.16
Rand gold price (R/kg)			
– Year 1	**615 000**	535 000	525 000
– Year 2	**600 000**	535 000	525 000
– Long term (year 3 onwards)	**585 000**	535 000	525 000

The following is the attributable gold resource value assumption:

	South Africa			**Hidden Valley**		
US dollar per ounce	**2019**	2018	2017	**2019**	2018	2017
Measured	**25.00**	25.00	32.69	**n/a**	n/a	n/a
Indicated	**8.00**	8.00	18.68	**8.00**	5.84	5.84
Inferred	**2.80**	2.80	4.67	**n/a**	5.84	5.84

The recoverable amount of mining assets is determined utilising real discounted future cash flows or resource multiples in the case of undeveloped properties and certain resource bases.

One of the most significant assumptions that influence the group's operations' life-of-mine plans, and therefore impairment, is the expected gold price. During this year's planning and testing, commodity price and exchange rate assumptions as per the table above were used. Due to the increase in the US$ commodity price and weakening of the rand against the US$ dollar at the end of the financial year, management decided it would be appropriate to differentiate between short, medium and long term assumptions used in the models.

13 PROPERTY, PLANT AND EQUIPMENT continued

MINING ASSETS continued

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS – IMPAIRMENT OF ASSETS continued

The post-tax real discount rate for Hidden Valley was 10.13% (2018: 9.91%) (2017:11.92%) and the post-tax real discount rates for the South African operations ranged between 8.90% and 11.10% (2018: 8.35% and 10.25%) (2017: 8.98% and 11.81%), depending on the asset, were used to determine the recoverable amounts. Cash flows used in the impairment calculations are based on life-of-mine plans which exceed five years for the majority of the mines. Cash flows from potential projects, life-of-mine extensions and residual ounces can also be included in the impairment assessment where deemed appropriate. An additional risk premium is added to the post-tax real discount rates in these instances.

Refer to note 6 for details of impairments recorded.

Should management's estimate of the future not reflect actual events, further impairments may be identified.

Factors affecting the estimates include:
- Changes to proved and probable ore reserves;
- Economical recovery of resources;
- The grade of the ore reserves may vary significantly from time to time;
- Review of strategy;
- Unforeseen operational issues at the mines;
- Differences between actual commodity prices and commodity price assumptions;
- Changes in the discount rate and foreign exchange rates;
- Changes in capital, operating mining, processing and reclamation costs;
- Mines' ability to convert resources into reserves;
- Potential production stoppages for indefinite periods; and
- Carbon tax.

13 PROPERTY, PLANT AND EQUIPMENT continued

MINING ASSETS continued

SENSITIVITY ANALYSIS - IMPAIRMENT OF ASSETS

One of the most significant assumptions that influence the life-of-mine plans and therefore impairments is the expected commodity prices. The sensitivity scenario of a 10% decrease or increase in the commodity price used in the discounted cash flow models and the resource values used (with all other variables held constant) would have resulted in the following impairment being recorded as at 30 June 2019 and 2018:

	SA rand	
Figures in million	**2019**	2018
- 10% decrease		
Tshepong Operations	**7 155**	5 174
Moab Khotsong[1]	**2 758**	1 636
Kusasalethu	**1 962**	2 716
Doornkop	**1 350**	2 052
Target 1	**1 278**	1 684
Joel	**984**	882
Hidden Valley	**749**	752
Target 3	**337**	141
Bambanani[1]	**331**	222
Target North	**291**	1 826
Other surface operations	**178**	540
Masimong	**105**	386
Unisel	**45**	525
Kalgold	**39**	—
+ 10% increase		
Target 3	**300**	—
Masimong	**—**	59
Target North	**—**	1 090
Unisel	**—**	433

[1] The carrying amounts of these CGUs include goodwill and any impairment losses are allocated first to goodwill and then to the identifiable assets.

At all other operations, a 10% increase in the gold price would have resulted in no impairments being recorded.

13 PROPERTY, PLANT AND EQUIPMENT continued

MINING ASSETS continued

The movement in the mining assets is as follows:

	SA rand	
Figures in million	**2019**	2018*
Cost		
Balance at beginning of year	**49 741**	40 570
Fully depreciated assets no longer in use derecognised	**(302)**	—
Additions[1]	**4 113**	2 546
Acquisition of Moab Khotsong	**—**	3 554
Disposals	**(16)**	(68)
Scrapping of assets	**(117)**	(2)
Adjustment to rehabilitation asset	**(439)**	(175)
Transfers and other movements	**801**	3 117
Translation	**(152)**	199
Balance at end of year	**53 629**	49 741
Accumulated depreciation and impairments		
Balance at beginning of year	**25 538**	19 263
Fully depreciated assets no longer in use derecognised	**(302)**	—
Impairment of assets	**3 880**	3 460
Disposals	**(16)**	(67)
Scrapping of assets	**(96)**	(1)
Depreciation	**4 184**	2 789
Translation	**(108)**	94
Balance at end of year	**33 080**	25 538
Net carrying value	**20 549**	24 203

* Relates to a change in the fair value of assets acquired - refer to note 12 for detail.
[1] Included in additions for 2019 is an amount of R173 million (2018: R12 million) for capitalised depreciation associated with stripping activities at the Hidden Valley operations.

Acquisition of assets

On 1 March 2018 the group acquired Moab Khotsong. Included in this acquisition was property, plant and equipment with a fair value of R3 691 million. Of the total acquisition costs, R3 554 million relates to mining assets and R137 million relates to other non-mining assets respectively. Refer to note 12 for more information relating to the acquisition.

Loss on scrapping of property, plant and equipment

Refer to note 7 for details.

Stripping activities

Included in the balance for mining assets is an amount of R1 208 million (2018: R261 million) relating to Kalgold and Hidden Valley. Depreciation of R13 million (2018: R4 million) was also recorded.

Transfer of assets

Transfer of assets relates to assets under construction transferred to mining assets. During the 2019 year this included an amount of R607 million transferred to mining assets at Hidden Valley. During 2018 amounts of R2 707 million and R410 million were transferred for Hidden Valley and Tshepong Operations respectively.

13 PROPERTY, PLANT AND EQUIPMENT continued

MINING ASSETS UNDER CONSTRUCTION

ACCOUNTING POLICY

At the group's surface mines, when it has been determined that a mineral property can be economically developed as a result of establishing proved and probable reserves, costs incurred to develop the property are capitalised as incurred until the mine is considered to have moved into the production phase. These costs include costs to further delineate the orebody and remove overburden to initially expose the orebody. At the group's underground mines, all costs incurred to develop the property, including costs to access specific ore blocks or other areas of the underground mine, are capitalised to the extent that such costs will provide future economic benefits. These costs include the cost of shaft sinking and access, the costs of building access ways, lateral development, drift development, ramps, box cuts and other infrastructure development. Revenue earned during the pre-production phase is credited to the asset.

Where a depreciable asset is used in the construction or extension of a mine, the depreciation is capitalised against the mine's cost.

Exploration properties acquired are recognised in the balance sheet within development cost and are shown at cost less provisions for impairment determined in accordance with the group's accounting policy on impairment of non-financial assets.

Mineral interests associated with development and exploration phase mineral interests are not amortised until such time as the underlying property is converted to the production stage.

Capitalisation of pre-production costs ceases when commercial levels of production are reached. Commercial levels of production are discussed under "production start date" above.

The movement in the mining assets under construction is as follows:

	SA rand	
Figures in million	**2019**	2018
Cost		
Balance at beginning of year	**2 528**	3 104
Additions[1]	**1 070**	1 988
Depreciation capitalised[2]	**50**	312
Finance costs capitalised[3]	**133**	183
Transfers and other movements	**(802)**	(3 123)
Translation	**(15)**	64
Balance at end of year	**2 964**	2 528

[1] For 2019 pre-production revenue of Rnil (2018: R1 288 million) was credited against additions.
[2] Relates primarily to Hidden Valley.
[3] Refer to note 9 for further detail on the capitalisation rate applied.

UNDEVELOPED PROPERTIES

ACCOUNTING POLICY

Undeveloped properties are initially recognised at cost, which is generally based on the fair value of resources obtained through acquisitions. The carrying values of these properties are tested annually for impairment. Once development commences, these properties are transferred to mining properties and accounted for in accordance with the related accounting policy.

13 PROPERTY, PLANT AND EQUIPMENT continued

UNDEVELOPED PROPERTIES continued

The movement in the undeveloped properties is as follows:

	SA rand	
Figures in million	**2019**	2018
Cost		
Balance at beginning of year	**5 446**	5 442
Translation	**(9)**	4
Balance at end of year	**5 437**	5 446
Accumulated depreciation and impairments		
Balance at beginning and end of year	**1 472**	14
Impairment[1]	**—**	1 458
Balance at end of year	**1 472**	1 472
Net carrying value	**3 965**	3 974

[1] The impairment for 2018 year relates to Target North.

OTHER NON-MINING ASSETS

ACCOUNTING POLICY

Land is shown at cost and not depreciated. Other non-mining fixed assets are shown at cost less accumulated depreciation and accumulated impairment losses. Other non-mining fixed assets are depreciated on a straight-line basis over their estimated useful lives as follows:

- Vehicles at 20% per year.
- Computer equipment at 33.3% per year.
- Furniture and equipment at 16.67% per year.

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each balance sheet date.

The movement in the non-mining assets is as follows:

	SA rand	
Figures in million	**2019**	2018
Cost		
Balance at beginning of year	**609**	441
Fully depreciated assets no longer in use derecognised	**(9)**	—
Additions	**59**	37
Acquisition of Moab Khotsong	**—**	137
Transfers and other movements	**1**	(6)
Translation	**(2)**	—
Balance at end of year	**658**	609

13 PROPERTY, PLANT AND EQUIPMENT continued

OTHER NON-MINING ASSETS continued

Figures in million	SA rand 2019	SA rand 2018
Accumulated depreciation and impairments		
Balance at beginning of year	**345**	236
Fully depreciated assets no longer in use derecognised	**(9)**	—
Depreciation	**39**	56
Impairment	**12**	51
Translation	**—**	2
Balance at end of year	**387**	345
Net carrying value	**271**	264

14 INTANGIBLE ASSETS

ACCOUNTING POLICY

Intangible assets consist of all identifiable non-monetary assets without physical substance. They are stated at cost less accumulated amortisation and accumulated impairment losses, if any. The following are the main categories of intangible assets:

Goodwill

Goodwill is an intangible asset with an indefinite useful life which is not amortised but tested for impairment on an annual basis, or when there is an indication of impairment. The excess of consideration transferred over the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previously held equity interest in the acquiree over the fair value of the group's share of the identifiable net assets acquired is recorded as goodwill. Goodwill on acquisition of subsidiaries, joint ventures and businesses is included in intangible assets. Goodwill on acquisition of associates is included in investments in associates and tested for impairment as part of the overall balance.

Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Goodwill is allocated to cash generating units for the purpose of impairment testing. The allocation is made to those cash generating units or groups of cash generating units that are expected to benefit from the business combination in which the goodwill arose. If the composition of one or more cash generating units to which goodwill has been allocated changes due to a re-organisation, the goodwill is re-allocated to the units affected.

The gain or loss on disposal of an entity includes the carrying amount of goodwill relating to the entity sold.

Technology-based assets

Acquired computer software licences that require further internal development are capitalised on the basis of costs incurred to acquire and bring to use the specific software. These technology-based assets are classified as intangible assets with a finite useful life. These assets are amortised on a straight-line basis over their estimated useful lives, which are reviewed annually, as follows:
• Computer software at 20% per year.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS - IMPAIRMENT OF GOODWILL

Due to the wasting nature of mining assets and the finite life of a mine's reserves, the allocation of goodwill to a shaft will eventually result in an impairment charge for the goodwill. The group tests annually whether separately identifiable goodwill has suffered any impairment in accordance with the accounting policy stated in note 2.5. These calculations use estimates as per note 13.

14 INTANGIBLE ASSETS continued

Figures in million	SA rand 2019	2018*
Goodwill	**520**	526
Technology-based assets	**13**	19
Total intangible assets	**533**	545

* The goodwill on acquisition of the Moab Khotsong operations was re-presented for the 2018 financial year as a result of the change in the fair value of net identifiable assets acquired amounting to R30 million. Refer to note 12.

GOODWILL

The movement in goodwill is as follows:

Figures in million	SA rand 2019	2018*
Cost		
Balance at beginning of year	**2 675**	2 373
Acquisition of Moab Khotsong	**—**	302
Balance at end of year	**2 675**	2 675
Accumulated amortisation and impairments		
Balance at beginning of year	**2 149**	1 782
Impairment[1]	**6**	367
Balance at end of year	**2 155**	2 149
Net carrying value	**520**	526
The net carrying value of goodwill has been allocated to the following cash generating units:		
Bambanani	**218**	224
Moab Khotsong	**302**	302
Net carrying value	**520**	526

[1] In 2019 an impairment of R6 million (2018: Rnil) on goodwill was recorded for Bambanani, Rnil (2018: R326 million) for Tshepong Operations and Rnil (2018: R41 million) for Joel as the carrying values exceeded the recoverable values of the related cash generating units. Refer to note 6 for further details on the impairment assessment.

14 INTANGIBLE ASSETS continued

TECHNOLOGY-BASED ASSETS

The movement in technology-based assets is as follows:

	SA rand	
Figures in million	**2019**	2018
Cost		
Balance at beginning of year	**48**	33
Fully depreciated assets no longer in use derecognised	**(10)**	—
Transfers and other movements	**—**	6
Additions	**1**	9
Balance at end of year	**39**	48

	SA rand	
Figures in million	**2019**	2018
Accumulated amortisation and impairments		
Balance at beginning of year	**29**	21
Fully depreciated assets no longer in use derecognised	**(10)**	—
Amortisation charge	**7**	8
Balance at end of year	**26**	29
Net carrying value	**13**	19

ACCOUNTING POLICY - FINANCIAL ASSETS (APPLICABLE TO NOTES 15, 16, 17, 18, AND 19)

Accounting policy applicable from 1 July 2018

Financial assets are initially recognised when the group becomes a party to their contractual arrangements. On initial recognition, a financial asset is classified as measured at:

- Amortised cost;
- Fair value through other comprehensive income (FVTOCI); or
- Fair value through profit or loss (FVTPL).

A financial asset is classified as measured at amortised cost if it is held within the business model whose objective is to hold assets to collect contractual cash flows and its contractual terms give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The group measures a financial asset initially at its fair value plus, in the case of a financial asset not at FVTPL, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVTPL are expensed. The subsequent measurement of financial assets is discussed below.

Financial asset category	Description
Debt instruments at amortised cost	Financial assets at amortised cost consist of restricted cash, restricted investments, loans, trade receivables and cash and cash equivalents. Interest income from these financial assets is included in investment income using the effective interest rate method. Any gain or loss arising on derecognition is recognised directly in profit or loss. Impairment losses are presented in other operating expenses in the income statement.
Debt instruments at fair value through profit or loss	Equity-linked investments which are held to meet rehabilitation liabilities are classified as FVTPL. Debt instruments where the contractual cash flows fail to meet the solely payments of principal and interest (SPPI) criteria are also classified as FVTPL. A gain or loss on a debt investment that is subsequently measured at FVTPL is recognised in profit or loss and presented net within investment income in the period in which it arises. On derecognition of a financial asset, the difference between the proceeds received or receivable and the carrying amount of the asset is included in profit or loss.
Equity instruments designated at fair value through OCI	The group's equity investments are designated as FVTOCI. The group subsequently measures all equity investments at fair value. Where the group's management has elected to present fair value gains and losses on equity investments in OCI, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividends from such investments are recognised when the group’s right to receive payments is established either in profit or loss as other income or as a deduction against the asset if the dividend clearly represents a recovery of part of the cost of the investment. Residual values in OCI are reclassified to retained earnings on derecognition of the related FVTOCI instruments.

Impairment losses on financial assets at amortised cost are assessed using the forward-looking expected credit loss (ECL) approach. ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the group expects to receive). At each reporting date, the group assesses whether financial assets carried at amortised cost are credit impaired. A financial asset is ‘‘credit-impaired’’ when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred. Trade receivable loss allowances are measured at an amount equal to lifetime ECLs. Loss allowances are deducted from the gross carrying amount of the assets.

Financial assets and liabilities are offset and the net amount reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis, or realise the asset and settle the liability simultaneously.

Accounting policy applicable before 1 July 2018

Financial assets are initially measured at fair value when the group becomes a party to their contractual arrangements, with the exception of loans and receivables which are recognised on origination date. Transaction costs are included in the initial measurement of financial instruments, with the exception of financial instruments classified at fair value through profit or loss. The subsequent measurement of financial assets is discussed below.

A financial asset is derecognised when the right to receive cash flows from the asset has expired or the group has transferred its rights to receive cash and either (a) has transferred substantially all the risks and rewards of the asset, or (b) has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the assets.

On derecognition of a financial asset, the difference between the carrying amount and the sum of the consideration received and any cumulative gain or loss recognised in equity is recognised in profit or loss.

Financial assets and liabilities are offset and the net amount reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis, or realise the asset and settle the liability simultaneously.

ACCOUNTING POLICY - FINANCIAL ASSETS (APPLICABLE TO NOTES 15, 16, 17, 18 AND 19) continued

Accounting policy applicable before 1 July 2018 continued

The group classifies financial assets as follows:

- **Loans and receivables** are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise when the group provides money, goods or services directly to a debtor with no intention of trading the receivable. Loans and receivables are subsequently measured at amortised cost using the effective interest method. Loans and receivables include trade and other receivables (excluding VAT and prepayments), restricted cash and cash and cash equivalents.

    —**Cash and cash equivalents** are defined as cash on hand, deposits held at call with banks and short-term highly liquid investments with original maturities of three months or less. Cash and cash equivalents exclude restricted cash.

    —**Trade and other receivables** are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method, less provision for impairment. If collection of the trade receivable is expected in one year or less it is classified as current assets. If not, it is presented as non-current assets. A provision for impairment of receivables is established when there is objective evidence that the group will not be able to collect all amounts due according to the original terms of receivables. The amount of the provision is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the effective interest rate. The carrying amount of the asset is reduced through the use of a provision for impairment (allowance account) and the amount of the loss is recognised in the income statement. When a trade receivable is uncollectible, it is written off against the allowance account for trade receivables. Subsequent recoveries of amounts previously written off are credited in the income statement.

- **Available-for-sale financial assets** are non-derivatives that are either designated in this category or not classified in any of the other categories. They are included in non-current assets unless the investment matures or management intends to dispose of the investment within 12 months of the balance sheet date. Available-for-sale financial assets are subsequently carried at fair value. The fair values of quoted investments are based on current bid prices. If the fair value for a financial instrument cannot be obtained from an active market, the group establishes fair value by using valuation techniques. The group assesses at each balance sheet date whether there is objective evidence that a financial asset or a group of financial assets is impaired.

- **Held-to-maturity** investments are non-derivative financial assets with fixed or determinable payments and fixed maturities that the group's management has the positive intention and ability to hold to maturity. The group's held-to-maturity investments are subsequently measured at amortised cost using the effective interest method. The group assesses at the end of each reporting period whether there is objective evidence that a held-to-maturity investment is impaired as a result of an event.

    A portion of restricted investments held by the trust funds (refer to note 16) are classified as held-to-maturity investments.

- **Financial assets at fair value through profit or loss** have two sub-categories: financial assets held-for-trading, and those designated at fair value through profit or loss at inception. Derivative assets are categorised as held for trading unless designated as hedging instruments (refer to note 2.3). These assets are subsequently measured at fair value with gains or losses arising from changes in fair value recognised in the income statement in the period in which they arise.

15 RESTRICTED CASH

	SA rand	
Figures in million	**2019**	2018
Non-current (a)	**92**	77
Current (b)	**44**	38
Total restricted cash	**136**	115

(a) The amount primarily relates to funds set aside to serve as collateral against guarantees made to the Department of Mineral Resources and Energy (DMRE) in South Africa for environmental and rehabilitation obligations. Refer to note 25. The funds are invested equally in short term money market funds and call accounts.

(b) Cash of R20 million (2018: R19 million) relates to monies released from the environmental trusts as approved by the DMRE which may only be used for further rehabilitation. Cash of R24 million (2018: R19 million) relates to monies set aside for affected communities in the group's PNG operations.

16 RESTRICTED INVESTMENTS

Figures in million	SA rand 2019	SA rand 2018
Investments held by environmental trust funds	**3 273**	3 238
Investments held by social trust funds	**28**	33
Total restricted investments	**3 301**	3 271

ENVIRONMENTAL TRUST FUNDS

ACCOUNTING POLICY

Contributions are made to the group's environmental trust funds, created in accordance with statutory requirements, to fund the estimated cost of pollution control, rehabilitation and mine closure at the end of the life of the group's mines. The trusts are consolidated into the group as the group exercises control of the trusts. The measurement of the investments held by the trust funds is dependent on their classification under financial assets. Income received and gains are treated in accordance with these classifications. The equity-linked notes are classified and measured at fair value through profit or loss whilst the interest-bearing short-term investments are classified and measured as debt instruments at amortised cost.

The environmental trust funds are irrevocable trusts under the group's control. Contributions to the trusts are invested in interest-bearing short-term and medium-term cash investments and medium term equity-linked notes issued by commercial banks that provide guaranteed interest and additional interest or growth linked to the growth of the Top 40 index of the JSE. These investments provide for the estimated cost of rehabilitation at the end of the life of the group's mines. Income earned on the investments is retained in the funds and reinvested.

The environmental trust funds consist of:

Figures in million	SA rand 2019	SA rand 2018
Fixed deposits	**2 015**	2 335
Cash and cash equivalents	**30**	23
Equity-linked deposits	**1 228**	880
Total environmental trust funds	**3 273**	3 238

Reconciliation of the movement in the investments held by environmental trust funds:

Figures in million	SA rand 2019	SA rand 2018
Balance at beginning of year	**3 238**	2 621
Interest income	**168**	157
Fair value gain	**48**	79
Moab Khotsong acquisition[1]	**—**	382
Equity-linked deposits acquired	**300**	—
(Maturity)/acquisition of fixed deposits	**(481)**	6
Net transfer of cash and cash equivalents	**183**	(7)
Withdrawal of funds for rehabilitation work performed	**(183)**	—
Balance at end of year	**3 273**	3 238

[1] Refer to note 12 for further information. The amount includes R58 million relating to Nufcor SA. Upon receipt the funds were invested in fixed deposits.

16 RESTRICTED INVESTMENTS continued

THE SOCIAL TRUST FUND

The social trust fund is an irrevocable trust under the group's control. The purpose of the trust is to fund the social plan to reduce the negative effects of restructuring on the group's workforce, to put measures in place to ensure that the technical and life skills of the group's workforce are developed and to develop the group's workforce in such a manner as to avoid or minimise the effect of job losses and a decline in employment through turnaround or redeployment strategies.

The social trust fund investment comprises a unit trust portfolio that is exposed to the fair value changes in the equity market and is classified as a fair value through profit or loss investment.

17 OTHER NON-CURRENT ASSETS

	SA rand	
Figures in million	**2019**	2018
Debt instruments	**274**	253
Loans to associates (a)	**116**	116
Loan to ARM BBEE Trust (b)	**271**	256
Other loans	**3**	—
Loss allowance (a) (b)	**(116)**	(119)
Equity instruments	**59**	8
Rand Mutual Assurance (c)	**52**	—
Other investments	**7**	8
Other non-current assets	**1**	3
Total other non-current assets	**334**	264

The movement in the loss allowance for debt instruments during the year is as follows:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**119**	162
Impact of adoption of IFRS 9 (b)	**(3)**	—
Reversal of loss allowance	**—**	(43)
Balance at end of year	**116**	119

(a) A loan of R116 million (2018: R116 million) owed by Pamodzi Gold Limited (Pamodzi) who were placed into liquidation during 2009 was provided for in full. Harmony is a concurrent creditor in the Pamodzi Orkney liquidation.

(b) During 2016, Harmony advanced R200 million to the ARM BBEE Trust, a shareholder of African Rainbow Minerals Limited (ARM). The trust is controlled and consolidated by ARM, who holds 13.8% of Harmony's shares. Harmony is a trustee of the ARM BBEE Trust. The loan is subordinated and unsecured. The interest is market related (3 months JIBAR plus 4.25%) and is receivable on the maturity of the loan on 31 December 2022. On adoption of IFRS 9, it was assessed that the contractual cash flows fail the solely payments of principal and interest (SPPI) characteristics and that the loan will therefore be carried at fair value through profit or loss (refer to note 2) and the previously recognised provision was derecognised. At 30 June 2019 the loan was remeasured to its fair value of R271 million using a discounted cash flow model. The fair value adjustment is recorded in gains on financial instruments - refer to note 8.

17 OTHER NON-CURRENT ASSETS continued

(c) The movement in the investment in Rand Mutual Assurance is as follows:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**—**	—
Fair value on adoption of IFRS 9	**82**	—
Capital dividend received	**(30)**	—
Balance at end of year	**52**	—

On adoption of IFRS 9 on 1 July 2018, the investment was remeasured to fair value. Refer to note 2. On 7 September 2018, RMA declared the proceeds from the sale of shares in one of its subsidiaries as a dividend to shareholders. The dividend is seen as a recovery of capital as it reduced Harmony's effective share in the underlying subsidiary which gave rise to the initial revaluation.

18 DERIVATIVE FINANCIAL INSTRUMENTS

The group has the following derivative financial instruments:

	SA rand			
Figures in million	**Rand gold hedging contracts**	**US$ commodity contracts (a)**	**Foreign exchange hedging contracts (b)**	**Total**
30 June 2019				
Derivative financial assets	**45**	**5**	**456**	**506**
Non-current	**23**	**1**	**173**	**197**
Current	**22**	**4**	**283**	**309**
Derivative financial liabilities	**(383)**	**(57)**	**(2)**	**(442)**
Non-current	**(158)**	**(14)**	**—**	**(172)**
Current	**(225)**	**(43)**	**(2)**	**(270)**
Net derivative financial instruments	**(338)**	**(52)**	**454**	**64**
Unamortised day one net loss included above	**36**	**5**	**—**	**41**
Realised gains included in revenue	**453**	**—**	**—**	**453**
Unrealised losses included in other reserves	**165**	**49**	**—**	**214**
Gains/(losses) included in gains on derivatives	**(51)**	**13**	**554**	**516**
Day one loss amortisation	**(31)**	**(1)**	**—**	**(32)**
Total gains on derivatives	**(82)**	**12**	**554**	**484**
Hedge effectiveness				
Cumulative changes in the fair value of the hedging instrument used as the basis for recognising hedge ineffectiveness	**288**	**(49)**	**—**	**239**
Cumulative changes in the fair value of the hedged item used as the basis for recognising hedge ineffectiveness.	**(288)**	**49**	**—**	**(239)**

18 DERIVATIVE FINANCIAL INSTRUMENTS continued

	SA rand			
Figures in million	Rand gold hedging contracts	US$ commodity contracts (a)	Foreign exchange hedging contracts (b)	Total
30 June 2018				
Derivative financial assets	482	74	67	623
Non-current	70	11	3	84
Current	412	63	64	539
Derivative financial liabilities	(12)	—	(203)	(215)
Non-current	(10)	—	—	(10)
Current	(2)	—	(203)	(205)
Net derivative financial instruments	470	74	(136)	408
Unamortised day one net loss included above	11	—	—	11
Realised gains included in revenue	1 197	—	—	1 197
Unrealised gains included in other reserves	413	—	—	413
Gains/(losses) included in gains on derivatives	(12)	35	113	136
Day one loss amortisation	(37)	—	—	(37)
Total gains on derivatives	(49)	35	113	99

	SA rand			
Figures in million	Rand gold hedging contracts	US$ commodity contracts (a)	Foreign exchange hedging contracts (b)	Total
30 June 2017				
Realised gains included in revenue	728	—	—	728
Gains/(losses) included in gains on derivatives	—	20	1 083	1 103
Hedge ineffectiveness	16	—	—	16
Day one loss amortisation	(94)	—	—	(94)
Total gains on derivatives	(78)	20	1 083	1 025

Hedge accounting
Harmony has entered into gold forward sale derivative contracts to hedge the risk of lower gold prices. Cash flow hedge accounting is applied to the majority of these contracts, resulting in the effective portion of the unrealised gains and losses being recorded in other comprehensive income (other reserves - refer to note 24). Refer to note 4 for a summary of the risk management strategy applied and the balances relating to designated hedging instruments as at reporting date. Hedge effectiveness is determined at the inception of the hedge relationship and through periodic prospective effectiveness assessments. The group enters into gold forward contracts that have similar terms as the hedged item, such as notional amount, maturity date and reference gold spot price thereby ensuring that an economic relationship exists between the hedging instrument and the hedged item and resulting in a hedge ratio of 1:1. Potential sources of hedge ineffectiveness include counterparty credit risk, day one gains and losses, a mismatch in the timing of the derivative and underlying gold sale maturities, location differential and the refining margin. A negligible amount of hedge ineffectiveness was however experienced during 2019 and 2018 as all the critical terms of the hedging instruments and hedged items matched.

The loss from derivative contracts to which hedge accounting is not applied is included in gains on derivatives.

18 DERIVATIVE FINANCIAL INSTRUMENTS continued

(a) Harmony maintains a hedging programme for Hidden Valley by entering into commodity hedging contracts. The contracts comprise US$ gold forward sale derivative contracts as well as silver zero cost collars which establish a minimum (floor) and maximum (cap) silver sales price. Hedge accounting is applied to all US$ gold forward sale derivative contracts entered into from 1 January 2019. None of these contracts matured during the current financial period. Hedge accounting is not applied to gold contracts entered into before this date as well as the silver collars.

(b) Harmony maintains a foreign exchange hedging programme in the form of zero cost collars, which sets a floor and cap rand/US$ exchange rate at which to convert US dollars to rands, and foreign exchange forward contracts. Hedge accounting is not applied to these contracts.

The following table shows the open position at the reporting date:

	FY2020				FY2021				TOTAL
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Foreign exchange contracts									
Zero cost collars									
US$m	**71**	**69**	**64**	**62**	**49**	**48**	**37**	**14**	**414**
Floor	**14.48**	**14.59**	**14.80**	**14.96**	**15.30**	**15.28**	**15.37**	**15.55**	**14.92**
Cap	**15.19**	**15.35**	**15.57**	**15.75**	**16.11**	**16.27**	**16.36**	**16.55**	**15.74**
Forward contracts									
US$m	**69**	**69**	**66**	**60**	**61**	**35**	**24**	**6**	**390**
Forward rate	**14.71**	**15.00**	**15.27**	**15.44**	**15.89**	**15.82**	**15.96**	**16.23**	**15.35**
R/gold									
'000 oz	**19**	**14**	**6**	**—**	**—**	**—**	**—**	**—**	**39**
'000 oz - cash flow hedge	**76**	**80**	**88**	**96**	**71**	**71**	**73**	**33**	**588**
R'000/kg	**626**	**641**	**648**	**661**	**668**	**674**	**689**	**702**	**659**
US$/gold									
'000 oz	**6**	**4**	**—**	**—**	**—**	**—**	**—**	**—**	**10**
'000 oz - cash flow hedge	**6**	**8**	**12**	**12**	**8**	**6**	**3**	**1**	**56**
US$/oz	**1 351**	**1 363**	**1 357**	**1 370**	**1 376**	**1 387**	**1 404**	**1 414**	**1 368**
Total gold									
'000 oz	**107**	**106**	**106**	**108**	**79**	**77**	**76**	**34**	**693**
US$/silver									
'000 oz	**90**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**90**
Floor	**17.40**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**17.40**
Cap	**18.40**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**18.40**

Refer to note 4 for the details on the fair value measurements.

19 TRADE AND OTHER RECEIVABLES

Figures in million	SA rand 2019	SA rand 2018
Financial assets		
Trade receivables (metals)	**448**	542
Other trade receivables	**230**	123
Loss allowance	**(68)**	(60)
Trade receivables - net	**610**	605
Interest and other receivables	**7**	7
Employee receivables	**10**	14
Non-financial assets		
Prepayments	**67**	76
Value added tax	**281**	316
Income and mining taxes	**89**	121
Total trade and other receivables	**1 064**	1 139

The movement in the loss allowance for trade and other receivables during the year was as follows (refer to note 4 for details):

Figures in million	SA rand 2019	SA rand 2018
Balance at beginning of year	**60**	51
Increase in loss allowance recognised during the year	**47**	11
Reversal of loss allowance during the year	**(39)**	(2)
Balance at end of year	**68**	60

The loss allowance for trade and other receivables stratified according to ageing profile at the reporting date is as follows:

Figures in million	SA rand Gross	SA rand Loss allowance
30 June 2019		
Not past due[1]	**562**	**—**
Past due by 1 to 30 days	**3**	**—**
Past due by 31 to 60 days	**30**	**—**
Past due by 61 to 90 days	**9**	**—**
Past due by more than 90 days	**12**	**11**
Past due by more than 361 days	**62**	**57**
	678	**68**
30 June 2018		
Not past due	586	16
Past due by 1 to 30 days	10	—
Past due by 31 to 60 days	21	—
Past due by 61 to 90 days	6	5
Past due by more than 90 days	10	10
Past due by more than 361 days	32	29
	665	60

[1]Includes the full trade receivables (metals) balance.

19 TRADE AND OTHER RECEIVABLES continued

During 2018 and 2019 there was no renegotiation of the terms of any receivable. As at 30 June 2019 and 30 June 2018, there was no collateral pledged or held for any of the receivables.

20 INVESTMENTS IN ASSOCIATES

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The investments in associates are evaluated for impairment by comparing the entire carrying value of the investment (including loans to associates and preference shares) to the recoverable amount, which is the higher of value in use or fair value less costs to sell. Discounted cash flow models are used to calculate the net present value of the investments. The cash flows in the models include expected interest and capital payments on loans, dividends, redemption amounts and proceeds on disposal.

(a) Harmony acquired a 32.4% interest in Pamodzi on 27 February 2008, initially valued at R345 million. Pamodzi was listed on the JSE and had interests in operating gold mines in South Africa. Pamodzi was placed in liquidation in March 2009. As at 30 June 2019, the liquidation process has not been concluded. Refer to note 17(a) for details of the loan and provision of impairment of the loan.

(b) Rand Refinery provides precious metal smelting and refining services in South Africa. Harmony holds a 10.38% share in Rand Refinery. This investment is a strategic investment for the group as Rand Refinery is the only company that provides such services in South Africa. Although the group holds less than 20% of the equity shares of Rand Refinery, the group is able to exercise significant influence by virtue of having a right to appoint a director on the board. Through the 10.38% shareholding and the right to appoint a director on the board, the investment has been accounted for as an associate.

In December 2014, Rand Refinery drew down on a shareholder's loan of which Harmony's portion thereof was R120 million. Following an amended loan agreement signed in June 2017, the loan was converted into cumulative redeemable preference shares of no par value. During 2019, Rand Refinery redeemed preference shares to the value of R32 million.

Rand Refinery has a 31 August year-end.

The movement in the investments in associates during the year is as follows:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**84**	46
Redemption of preference shares	**(32)**	—
Share of profit/(loss) in associate	**59**	54
Impairment loss[1]	**—**	(16)
Balance at end of year	**110**	84

[1]The impairment in 2018 relates to Rand Refinery. The recoverable amount of R84 million was determined using a pre-tax discount rate of 15.7%.

21 INVESTMENT IN JOINT OPERATIONS

The group has a 50% interest in certain mining and exploration assets located in the Morobe province, PNG. Newcrest owns the remaining 50% interest in these assets. The asset in the joint arrangement is the Wafi-Golpu project. The joint arrangement is accounted for as a joint operation.

22 INVENTORIES

ACCOUNTING POLICY

Inventories, which include bullion on hand, gold-in-process, gold in lock-up, ore stockpiles and consumables, are measured at the lower of cost and net realisable value. Net realisable value is assessed at each reporting date and is determined with reference to relevant market prices.

The cost of bullion, gold-in process and gold in lock-up is determined by reference to production cost, including amortisation and depreciation at the relevant stage of production. Ore stockpiles are valued at average production cost. Stockpiles and gold in lock-up are classified as non-current assets where the stockpile exceeds current processing capacity and where a portion of static gold in lock-up is expected to be recovered more than 12 months after balance sheet date.

Gold in-process inventories represent materials that are currently in the process of being converted to a saleable product. In-process material is measured based on assays of the material fed to process and the projected recoveries at the respective plants. In-process inventories are valued at the average cost of the material fed to process attributable to the source material coming from the mine or stockpile plus the in-process conversion costs, including the applicable depreciation relating to the process facility, incurred to that point in the process. Gold in-process includes gold in lock-up which is generally measured from the plants onwards. Gold in lock-up is expected to be extracted when plants are demolished at the end of their useful lives, which is largely dependent on the estimated useful life of the operations feeding the plants.

At the group's open pit operations, gold in-process represents production in broken ore form.

Consumables are valued at weighted average cost value after appropriate allowances for slow moving and redundant items.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Judgement is applied in estimating the provision for stock obsolescence. The provision is recognised on items not considered critical as a percentage of the value of the inventory depending on the period elapsed since the inventory was purchased or issued. Inventory held for longer than five years is written down to zero unless there is sufficient evidence of a recoverable amount.

	SA rand	
Figures in million	**2019**	2018
Gold in lock-up	**43**	46
Gold in-process, ore stockpiles and bullion on hand[1]	**780**	620
Consumables at weighted average cost (net of provision)[2]	**1 187**	1 139
Total inventories	**2 010**	1 805
Non-current portion of gold in lock-up and gold in-process	**(43)**	(46)
Total current portion of inventories	**1 967**	1 759
Included in the balance above is:		
Inventory valued at net realisable value	**334**	205

[1] Gold in process increased R137 million year on year due to the timing of the plant clean-up at year-end which resulted in the first possible dispatch day falling in the 2020 financial period. The balance includes uranium stock of R23 million (2018: R40 million) for the Moab Khotsong operations.
[2] Certain maintenance services were in-sourced at the Hidden Valley operations resulting in an increase in the consumables balance.

During the year, a decrease of R1 million (2018: R32 million increase) to the provision for slow-moving and redundant stock was made. The total provision at 30 June 2019 was R281 million (2018: R282 million).

23 SHARE CAPITAL

ACCOUNTING POLICY

Ordinary shares are classified as equity, incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

The cost of treasury shares is eliminated against the share capital balance.

AUTHORISED

1 200 000 000 (2018: 1 200 000 000) ordinary shares with no par value.
4 400 000 (2018: 4 400 000) convertible preference shares with no par value.

ISSUED

539 841 195 (2018: 500 251 751) ordinary shares with no par value. All issued shares are fully paid.
4 400 000 (2018: 0) convertible preference shares with no par value.

SHARE ISSUES

Accelerated bookbuild
During June 2018, Harmony conducted a placement of new ordinary shares to qualifying investors to raise up to R1.26 billion, which represented approximately 15 per cent of the group's existing issued ordinary share capital prior to the placement. The placement was conducted through an accelerated bookbuild. The net proceeds of the placement were used to pay down part of the outstanding bridge loan raised for the acquisition of the Moab Khotsong operations. A total of 55 055 050 new ordinary shares were placed with existing and new institutional investors at a price of R19.12 per share, raising gross proceeds of R1.05 billion. Costs directly attributable to the issue of the shares amounted to R49 million.

As part of the accelerated bookbuild, ARM subscribed for an additional 11 032 623 shares at R19.12 a share in July 2018. The issue raised a further R211 million and resulted in ARM maintaining its shareholding of 14.29% post the placement of shares.

Share issues relating to employee share options
An additional 21 856 821 (2018: 5 239 502) shares were issued to settle the exercise of share options by employees relating to Harmony's management share option schemes. In the current financial year, Harmony implemented a new employee share option scheme referred to as the Sisonke Employee Share Ownership Plan. An amount of 6 700 000 shares were issued to the Harmony ESOP Trust as part of the new scheme. Note 33 sets out the details in respect of the share option schemes.

Convertible preference shares
On 20 February 2019, Harmony issued 4 400 000 convertible preference shares to the Harmony Gold Community Trust. The convertible preference shares carry a minimum annual preference dividend of R2 per share and are convertible into ordinary shares on a 1:1 basis after the tenth anniversary of the date on which the shares were issued. The conversion is at the election of Harmony.

TREASURY SHARES

Included in the total of issued shares are the following treasury shares:

	Number of shares	
	2019	2018
Ordinary shares		
Lydenburg Exploration Limited[1]	**335**	335
Kalgold Share Trust[2]	**47 046**	47 046
Harmony ESOP Trust[2]	**6 592 900**	—
Convertible preference shares		
Harmony Gold Community Trust[3]	**4 400 000**	—

[1] A wholly-owned subsidiary
[2] Trust controlled by the group
[3] The issue of the convertible preference shares did not impact the group's consolidated financial statements as the Harmony Gold Community Trust is controlled by the group.

24 OTHER RESERVES

	SA rand	
Figures in million	**2019**	2018
Foreign exchange translation reserve (a)	**2 389**	2 439
Hedge reserve (b)	**(214)**	413
Share-based payments (c)	**2 764**	2 534
Post-retirement benefit actuarial gain/(loss) (d)	**(19)**	(12)
Acquisition of non-controlling interest in subsidiary (e)	**(381)**	(381)
Equity component of convertible bond (f)	**277**	277
Repurchase of equity interest (g)	**(98)**	(98)
Equity instruments designated at fair value through other comprehensive income (h)	**79**	—
Fair value movement of available-for-sale financial assets (i)	**—**	(3)
Other	**(24)**	(24)
Total other reserves	**4 773**	5 145

(a) The balance of the foreign exchange translation reserve movement represents the cumulative translation effect of the group's off-shore operations.

(b) Harmony has entered into gold hedging contracts. Cash flow hedge accounting is applied to these contracts, resulting in the effective portion of the unrealised gains and losses being recorded in other comprehensive income (other reserves). Refer to note 18 for further information. The reconciliation of the hedge reserve is as follows:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**413**	1 143
	(274)	216
Net gain/(loss) on gold contracts	**(351)**	273
Deferred tax thereon	**77**	(57)
	(353)	(946)
Released to revenue	**(453)**	(1 197)
Deferred tax thereon	**100**	251
Balance at end of year	**(214)**	413
Attributable to:		
Rand gold hedging contracts	**(165)**	413
US dollar gold hedging contracts	**(49)**	—

(c) The reconciliation of the movement in the share-based payments is as follows:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**2 534**	2 160
Share-based payments expensed (i)	**230**	374
Balance at end of year	**2 764**	2 534

(i) The group issues equity-settled instruments to certain qualifying employees under an employee share option scheme and employee share ownership plan (ESOP) to award shares from the company’s authorised but unissued ordinary shares. Equity share-based payments are measured at the fair value of the equity instruments at the grant date and are expensed over the vesting period, based on the group’s estimate of the shares that are expected to vest. Refer to note 33 for more details.

24 OTHER RESERVES continued

(d) The actuarial gains or losses related to the post-retirement benefit obligation will not be reclassified to the income statement. The movement is as follows:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**(12)**	(25)
Actuarial gain/(loss)	**(7)**	14
Deferred tax	**—**	(1)
Balance at end of year	**(19)**	(12)

(e) On 15 March 2004, Harmony announced that it had made an off-market cash offer to acquire all the ordinary shares, listed and unlisted options of Abelle Limited, held by non-controlling interests. The excess of the purchase price of R579 million over the carrying amount of non-controlling interest acquired, amounting to R381 million, has been accounted for under other reserves.

(f) On 24 May 2004, the group issued a convertible bond. The amount representing the value of the equity conversion component is included in other reserves, net of deferred income taxes. The equity conversion component is determined on the issue of the bonds and is not changed in subsequent periods. The convertible bonds were repaid in 2009.

(g) On 19 March 2010, Harmony Gold Mining Company Limited concluded an agreement with African Vanguard Resources (Proprietary) Limited (AVRD), for the purchase of its 26% share of the mining titles of the Doornkop South Reef. The original sale of the 26% share in the mining titles was accounted for as an in-substance call option by AVRD over the 26% mineral right. The agreement to purchase AVRD's 26% interest during the 2010 financial year is therefore considered to be a repurchase of the option (equity interest). The 26% interest was transferred from AVRD to Harmony in exchange for Harmony repaying the AVRD Nedbank loan and the issue of 2 162 359 Harmony shares. The difference between the value of the shares issued of R152 million, the liability to the AVRD and transaction costs, have been taken directly to equity.

(h) Includes R82 million related to the fair value movement of Harmony's interest in Rand Mutual Assurance. Refer to note 17.

(i) In accordance with the transitional provisions in IFRS 9, comparative figures were not restated. On adoption of the standard, the reserve attributable to fair value movement of available-for-sale financial assets was transferred to equity instruments designated at fair value through other comprehensive income.

ACCOUNTING POLICY - PROVISIONS (APPLICABLE TO NOTES 25, 26, 27 AND 28)

Provisions are recognised when the group has a present legal or constructive obligation as a result of past events where it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate of the amount of the obligation can be made.

The amount recognised as a provision is the net present value of the best estimate of the expenditure required to settle the present obligation at balance sheet date using a pre-tax rate that reflects current market assessment of the time value of money and the risks specific to the obligation. The estimate takes into account the associated risks and uncertainties. The increase in the provision due to the passage of time is recognised as interest expense.

Provisions are reviewed at each balance sheet date and adjusted to reflect the current best estimate. If it is no longer probable that an outflow of economic benefits will be required, the provision is reversed.

25 PROVISION FOR ENVIRONMENTAL REHABILITATION

ACCOUNTING POLICY

Estimated long-term environmental obligations, comprising pollution control, rehabilitation and mine closure, are based on the group's environmental management plans in compliance with current technological, environmental and regulatory requirements.

Based on disturbances to date, the net present value of expected rehabilitation cost estimates is recognised and provided for in full in the financial statements. The estimates are reviewed annually and are discounted using a pre-tax risk-free rate that is adjusted to reflect the current market assessments of the time value of money and the risks specific to the obligation.

Annual changes in the provision consist of finance costs relating to the change in the present value of the provision and inflationary increases in the provision estimate, as well as changes in estimates. The present value of environmental disturbances created are capitalised to mining assets against an increase in the rehabilitation provision. If a decrease in the liability exceeds the carrying amount of the asset, the excess is recognised immediately in the income statement. If the asset value is increased and there is an indication that the revised carrying value is not recoverable, impairment is performed in accordance with the accounting policy dealing with impairments of non-financial assets (refer to note 2.5). Rehabilitation projects undertaken included in the estimates are charged to the provision as incurred. The cost of ongoing current programmes to prevent and control pollution is charged against income as incurred. Over time, the liability is increased to reflect an interest element, and the capitalised cost is depreciated over the life of the related asset.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Significant judgement is applied in estimating the ultimate rehabilitation cost that will be required in future to rehabilitate the group's mines. Ultimate cost may significantly differ from current estimates. The following rates were used in the calculation of the provision:

	2019 %	2018 %	2017 %
South African operations			
Inflation rate	**5.25**	5.50	6.50
Discount rates			
- 12 months	**6.50**	6.70	7.50
- one to five years	**6.85**	7.00	7.60
- six to nine years	**8.50**	8.20	8.40
- ten years or more	**9.60**	8.60	9.10
PNG operations:			
Inflation rate	**5.00**	6.00	6.60
Discount rate	**6.25**	6.25	6.25

The group's mining and exploration activities are subject to extensive environmental laws and regulations. The group has made, and expects to make in the future, expenditures to comply with such laws and regulations, but cannot predict the full amount of such future expenditures. Estimated future reclamation costs are based principally on legal and regulatory requirements.

25 PROVISION FOR ENVIRONMENTAL REHABILITATION continued

The following is a reconciliation of the total provision for environmental rehabilitation:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**3 309**	2 638
Change in estimate - Balance sheet[1]	**(439)**	(175)
Change in estimate - Income statement	**33**	67
Utilisation of provision	**(86)**	(94)
Time value of money and inflation component of rehabilitation costs	**208**	191
Acquisitions[2]	**—**	663
Transfer [3]	**37**	—
Translation	**(8)**	19
Balance at end of year	**3 054**	3 309

[1] The biggest contributor was Moab Khotsong, where a decrease of R240 million was recognised following on alignment of the methodology and other assumptions including rates.
[2] The 2018 acquisition relates to the Moab Khotsong operations (refer to note 12).
[3] Refer to note 28 for details.

The provision for environmental rehabilitation for PNG amounts to R994 million (2018: R969 million) and is unfunded.

While the ultimate amount of rehabilitation costs to be incurred in the future is uncertain, the group has estimated that, based on current environmental and regulatory requirements, the total undiscounted cost for the operations, in the current monetary terms, is as follows:

	SA rand	
Figures in million	**2019**	2018
Future net undiscounted obligation		
Ultimate estimated rehabilitation cost	**4 139**	4 338
Amounts invested in environmental trust funds (refer to note 16)	**(3 273)**	(3 238)
Total future net undiscounted obligation	**866**	1 100

With the introduction of the National Environmental Management Act (NEMA) Regulations on Financial Provisioning, effective from February 2020, there may be changes to the estimate of the liability and the way in which the group funds the obligation.

The group intends to finance the ultimate rehabilitation costs from the money invested in environmental trust funds as well as the proceeds on sale of assets and gold from plant clean-up at the time of mine closure. The group has guarantees in place, some cash-backed, relating to some of the environmental liabilities. Refer to notes 15 and 35.

26 PROVISION FOR SILICOSIS SETTLEMENT

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Significant judgement is applied in estimating the cost that will be required in future to settle any claims against cartain of the group's mines. The ultimate cost may differ from current estimates.

The provision amount was based on estimates of number of potential claimants, levels of disease progression and take-up rates. These estimates were informed by historic information, published academic research and professional opinion. The key assumptions that were made in the determination of the provision amount include:
• Silicosis prevalence rates;
• Estimated settlement per claimant;
• Benefit take-up rates;
• Disease progression rates; and
• Timing of cash flows.

26 PROVISION FOR SILICOSIS SETTLEMENT continued

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS continued

A discount rate of 8.5% (2018:8.5%) (2017: 8.0%) was used, based on government bonds with similar terms to the obligation.

There is uncertainty with regards to the rate at which potential claims would be reported as well as the benefit take-up rates. Refer to sensitivity analysis on the key assumptions below.

Consolidated class action

Harmony and certain of its subsidiaries (Harmony group), together with other mining companies, are named in a class action for silicosis and tuberculosis which was certified by the Johannesburg High Court in May 2016.

A gold mining industry working group which includes Harmony (the working group) was formed in November 2014 to address issues relating to the compensation and medical care for occupational lung diseases in the gold mining industry in South Africa. The working group engaged all stakeholders on these matters and on 3 May 2018, announced that they have reached an agreement with the lawyers representing the claimants in the silicosis class action litigation. The settlement is subject to certain suspensive conditions, including the agreement being approved by the South Gauteng High Court. Refer to note 36 for events after the reporting date.

Annual changes in the provision consist of time value of money (recognised as finance costs) and changes in estimates (other operating expenses). The change in estimate for 2019 is a gain of R62 million due to a change in the timing of expected cash flows. The contributions are expected to be settled by cash flows from the group's South African operations and will occur over a number of years. The nominal amount for Harmony group is R1.3 billion.

The following is a reconciliation of the total provision for the silicosis settlement:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**925**	917
Change in estimate	**(62)**	(68)
Time value of money and inflation component	**79**	76
Balance at end of year	**942**	925

Sensitivity analysis

The impact of a reasonable change in certain key assumptions would increase or decrease the provision amount by the following amounts:

	SA rand	
Figures in million	**2019**	2018
Effect of an increase in the assumption:		
Change in benefit take-up rate[1]	**66**	65
Change in silicosis prevalence[2]	**66**	65
Change in disease progression rates[3]	**33**	31
Effect of a decrease in the assumption:		
Change in benefit take-up rate[1]	**(66)**	(65)
Change in silicosis prevalence[2]	**(66)**	(65)
Change in disease progression rates[3]	**(33)**	(31)

[1] Change in benefit take-up rate: the take-up rate does not affect the legal cost allocation, but a 10% change results in a proportionate change in the other values.
[2] Change in the silicosis prevalence: the assumptions that will result in a change in the estimated number of cases are either a 10% change in the assumed labour number or a 10% change in the disease risk.
[3] Change in disease progression rates: a one year shorter/longer disease progression period was used. This assumption is not applicable to the dependant or TB classes.

26 PROVISION FOR SILICOSIS SETTLEMENT continued

The above sensitivity analysis is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. A change in the settlement claim amount would result in a change in the provision amount on a rand for rand basis.

The ultimate outcome of this matter remains uncertain, with a possible failure to fulfill all the suspensive conditions. The provision recorded in the financial statements is consequently subject to adjustment or reversal in the future.

27 RETIREMENT BENEFIT OBLIGATION

ACCOUNTING POLICY

The group provides medical cover to current employees and certain retirees through certain funds. The medical accounting costs for the defined benefit plan are assessed using the projected unit credit method. The health care obligation is measured at the present value of the estimated future cash outflows using government bond interest rates consistent with the terms and risks of the obligation. Actuarial gains and losses as a result of these valuations are recognised in other comprehensive income (OCI) at revaluation date. Actuarial gains and losses recognised in OCI will not be recycled to profit or loss. The future liability for current and retired employees and their dependants is accrued in full based on actuarial valuations obtained annually.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

An updated actuarial valuation is carried out at the end of each financial year. Assumptions used to determine the liability include a discount rate of 9.7%, no increases in employer subsidies (in terms of the agreement), mortality rates according to the SA 1956/62 mortality table (SA “”a mf”” tables) (retirement age of 60) and a medical inflation rate of 7.8% (2018: discount rate of 9.8%, retirement age of 60 and 7.9% inflation rate) (2017: discount rate of 10%, retirement age of 60 and 8.0% inflation rate).

Management determined the discount rate by assessing government bonds with similar terms to the liability. The changes to the discount rate and medical inflation rate are similar to changes in interest and inflation rates in South Africa.

(a) Pension and provident funds

The group contributes to several pension and provident funds governed by the Pension Funds Act, 1956 for the employees of its South African subsidiaries. The pension funds are multi-employer defined contribution industry plans. The group’s liability is therefore limited to its monthly determined contributions. The provident funds are funded on a “monetary accumulative basis” with the member’s and employer’s contributions having been fixed in the constitution of the funds.

The Australian group companies make contributions to each employee’s superannuation (pension) funds in accordance with the Superannuation Guarantee Scheme (SGS). The SGS is a Federal Government initiative enforced by law which compels employers to make regular payments to regulated funds providing for each employee on their retirement. The SGS were set at a minimum of 9.5% of gross salary and wages for the 2019 year (2018: 9.5%). The fund is a defined contribution plan.

The PNG Superannuation Act 2002 requires a compulsory employer contribution of 8.4% (2018: 8.4%) into an approved superannuation (pension) fund if an employee is appointed for a period of three months or more. The approved superannuation funds are defined contribution plans.

Substantially all the group’s employees are covered by the above mentioned retirement benefit plans. Funds contributed by the group for the 2019 financial year amounted to R766 million (2018: R638 million).

(b) Post-retirement benefits other than pensions

Harmony inherited a post-retirement medical benefit obligation, which existed at the time of the Freegold acquisition in 2002. The group also inherited various post-retirement medical benefit obligations with the acquisition of the Moab Khotsong operations (refer to note 12). Given the insignificant values attributed to the Moab Khotsong obligations, the details have not been included in the discussion below. Except for the abovementioned employees, Harmony has no other post-retirement obligation for the other group employees.

The group’s obligation is to pay a subsidy of 2% for every completed year of employment up to a maximum of 50% of total medical aid contributions, commencing on date of retirement. Should the employee die, either in service or after retirement, this benefit will transfer to his/her dependants. The medical aid tariffs are based on the Bestmed medical scheme (Bestmed) options.

27 RETIREMENT BENEFIT OBLIGATION continued

(b) Post-retirement benefits other than pensions continued

The principal actuarial assumptions used to determine the present value of unfunded obligations are discussed above. In addition the following was also considered:

- It is assumed that all Continuation and Widow Members (CAWMs) will remain on the current benefit option and income band. For employed members, post-employment contributions were assumed to be equal to the average payable for the current CAWMs membership;
- It is assumed that not all employed members will remain employed until retirement therefore estimated resignation and ill-health retirement rates are also taken into account;
- It is assumed that 90% of employed members will be married at retirement or earlier death and that wives are four years younger than their husbands.

Through the post-employment medical plan, the group is exposed to a number of risks, the most significant of which are discussed below:

- **Change in bond yields:** A decrease in the bond yields will increase the plan liability.
- **Inflation risk:** The obligation is linked to inflation and higher inflation will lead to a higher liability.
- **Life expectancy:** The obligation is to provide benefits for the life of the member, so increases in life expectancy will result in an increase in the plan's liabilities.

The liability is unfunded and will be settled out of cash and cash equivalents when it becomes due. The liability is based on an actuarial valuation conducted during the year ended 30 June 2019, using the projected unit credit method. The next actuarial valuation will be performed on 30 June 2020.

	SA rand	
Figures in million	**2019**	2018
Present value of all unfunded obligations	**201**	186
Current employees	**54**	62
Retired employees	**147**	124
The movement in the retirement benefit obligation is as follows:		
Balance at beginning of year	**186**	179
Contributions paid	**(12)**	(10)
Other expenses included in staff costs/current service cost	**3**	2
Finance costs	**17**	18
Net actuarial (gain)/loss recognised during the year	**7**	(13)
Moab Khotsong acquisition (refer to note 12)	**—**	10
Balance at end of year	**201**	186

The net actuarial loss for 2019 was mainly due to subsidy inflation being higher than expected (2018: net actuarial gain was mainly due to exits of employed and retired members being higher than expected). The net actuarial (gain)/loss has been recorded in other comprehensive income.

	SA rand	
Figures in million	**2019**	2018
The net liability of the defined benefit plan is as follows:		
Present value of defined benefit obligation	**201**	186
Fair value of plan assets	**—**	—
Net liability of defined benefit plan	**201**	186

27 RETIREMENT BENEFIT OBLIGATION continued

(b) Post-retirement benefits other than pensions continued

The effect of a percentage point increase and decrease in the assumed medical cost trend rate is as follows:

	SA rand	
Figures in million	**2019**	2018
Effect of a 1% increase on:		
Aggregate of service cost and finance costs	**2**	2
Defined benefit obligation	**23**	21
Effect of a 1% decrease on:		
Aggregate of service cost and finance costs	**(2)**	(2)
Defined benefit obligation	**(19)**	(18)

The above sensitivity analysis is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The analysis is performed on the same basis for 2018.

The group expects to contribute approximately R13 million to the benefit plan in 2020.

The weighted average duration of the defined benefit obligation is 13.8 years.

28 OTHER NON-CURRENT LIABILITIES

	SA rand	
Figures in million	**2019**	2018
KOSH deep groundwater pollution liability (a)	**—**	37
Sibanye Beatrix ground swap royalty	**2**	1
Other	**3**	3
Total non-current liabilities	**5**	41

(a) KOSH deep groundwater pollution liability

In 2018, Harmony purchased selected mining infrastructure in the Klerksdorp, Orkney, Stilfontein, Hartebeesfontein (KOSH) area from AngloGold Ashanti Limited as part of the Moab Khotsong acquisition (refer to note 12). During an assessment of the environmental liabilities associated with this purchase, a risk related to the potential decant and pollution of deep ground mine water from the re-watered underground workings was identified.

Due to the interconnected nature of mining operations, any proposed solution needs to be a combined one supported by all the mines located in these gold fields. As a result, the Mineral and Petroleum Resources Development Act (MPRDA) requires that the affected mining companies develop a Regional Mine Closure Strategy to be approved by the Department of Mineral Resources. Harmony has commissioned a detailed assessment of the mine void after closure to provide clarity on the locality and volume of water expected to decant after mine closure and the quality of the decant water. Simulations have shown that the potential impact from this decant is low and that it will not impact on any down-gradient receptors, including the Vaal River.

A contingent liability acquired in a business combination is recognised in the acquisition accounting if it is a present obligation and its fair value can be measured reliably. Based on Harmony's assessment, a liability of R37 million has been raised as part of the liabilities assumed in the business combination.

In 2019, the liability was transferred from other non-current liabilities and included in the group's provision for environmental rehabilitation. Refer to note 25.

ACCOUNTING POLICY - FINANCIAL LIABILITIES (APPLICABLE TO NOTES 29 AND 30)

Financial liabilities are initially measured at fair value when the group becomes a party to their contractual arrangements. Transaction costs are included in the initial measurement of financial liabilities, with the exception of financial liabilities classified at fair value through profit or loss. The subsequent measurement of financial liabilities is discussed below. A financial liability is derecognised when the obligation under the liability is discharged, cancelled or expires. The group classifies financial liabilities as follows:

- **Borrowings** are initially recognised at fair value net of transaction costs incurred and subsequently measured at amortised cost, comprising original debt less principal payments and amortisation, using the effective yield method. Any difference between proceeds (net of transaction cost) and the redemption value is recognised in the income statement over the period of the borrowing using the effective interest rate method.

  Fees paid on the establishment of the loan facilities are capitalised as a pre-payment and amortised over the period of the facility to which it relates, to the extent it is probable that some or all of the facility will be drawn down. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is expensed.

  Borrowings are classified as current liabilities unless the group has an unconditional right to defer settlement of the liability for at least 12 months after the balance sheet date.

- **Trade and other payables** are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method. Payables are classified as current liabilities if payment is due within a year or less. If not, they are presented as non-current liabilities.

29 BORROWINGS

SUMMARY OF FACILITIES' TERMS

	Commenced	Tenor (Years)	Matures	Secured	Security	Interest payment basis	Interest charge	Repayment term	Repaid
R1 billion revolving credit facility	February 2017	Three	February 2020	Yes	Cession and pledge of operating subsidiaries' shares and claims	Variable	JIBAR + 3.15%	On maturity	November 2018
R2 billion facility	November 2018	Four	November 2022	Yes	Cession and pledge of operating subsidiaries' shares and claims	Variable			
- R600 million term loan							JIBAR + 2.9%	Eight equal quarterly instalments with the final instalment on maturity	
- R1.4 billion revolving credit facility							JIBAR + 2.8%	On maturity	
US$350 million facility	July 2017	Three	July 2020	Yes	Cession and pledge of operating subsidiaries' shares and claims	Variable		On maturity	
- US$175 million revolving credit facility							LIBOR + 3.0%		
- US$175 million term loan							LIBOR + 3.15%		
US$200 million bridge loan	October 2017	One	October 2018	Yes	Cession and pledge of operating subsidiaries' shares and claims	Variable		On maturity	July 2018
						First 6 months	LIBOR + 2.5%		
						Next 3 months	LIBOR + 3.0%		
						Last 3 months	LIBOR + 3.5%		
US$24 million Westpac loan	July 2018	Four	July 2022	Yes	Cession and pledge of vehicles and machinery	Variable	LIBOR + 3.2%	Quarterly instalments	

29 BORROWINGS continued

DEBT COVENANTS

The debt covenant tests for both the rand and US dollar facilities are as follows:

- The group's interest cover ratio shall be more than five (EBITDA[1]/ Total interest paid);
- Tangible Net Worth[2] to total net debt ratio shall not be less than four times or six times when dividends are paid;
- Leverage[3] shall not be more than 2.5 times.

[1] Earnings before interest, taxes, depreciation and amortisation (EBITDA) as defined in the agreement excludes unusual items such as impairment and restructuring cost.
[2] Tangible Net Worth is defined as total equity less intangible assets.
[3] Leverage is defined as total net debt to EBITDA.

At the time of entering into the bridge loan the Tangible Net Worth to total net debt ratio covenant was renegotiated and relaxed from six times to four times for the full term of the bridge loan. With the refinancing of the rand facility in November 2018, the ratio was set at 4.5 times and subsequently set at four times or from eight to six times if dividends are paid at the start of the US$ facility refinancing process in May 2019 (refer to note 36). No breaches of the covenants were identified during the tests in the 2018 and 2019 financial years.

INTEREST BEARING BORROWINGS

	SA rand	
Figures in million	**2019**	2018
Non-current borrowings		
R1 billion revolving credit facility	**—**	497
Balance at beginning of year	**497**	299
Draw down	**500**	500
Repayments	**—**	(300)
Refinancing	**(997)**	—
Issue cost	**—**	(2)
R2 billion facility	**1 489**	—
Refinancing	**1 000**	—
Draw down	**700**	—
Repayments	**(200)**	—
Issue cost	**(16)**	—
Amortisation of issue cost	**5**	—
Westpac fleet loan	**194**	—
Draw down	**322**	—
Repayments	**(64)**	—
Transferred to current liabilities	**(89)**	—
Translation	**25**	—
US$350 million facility	**4 143**	4 427
Balance at beginning of year	**4 427**	—
Draw down	**—**	4 127
Repayments	**(422)**	—
Issue cost	**—**	(94)
Amortisation of issue costs	**44**	33
Translation	**94**	361
Total non-current borrowings	**5 826**	4 924

29 BORROWINGS continued

INTEREST BEARING BORROWINGS continued

Figures in million	SA rand 2019	SA rand 2018
Current borrowings		
R1 billion revolving credit facility	**—**	3
Balance at beginning of year	**3**	3
Refinancing	**(3)**	—
US$250 million revolving credit facility	**—**	—
Balance at beginning of year	**—**	1 831
Repayments	**—**	(1 847)
Amortisation of issue costs	**—**	4
Translation	**—**	12
Westpac fleet loan	**89**	—
Transferred from non-current liabilities	**89**	—
US$200 million bridge loan	**—**	687
Balance at beginning of year	**687**	—
Draw down	**—**	2 310
Repayments	**(667)**	(1 916)
Issue cost	**—**	(3)
Translation	**(20)**	296
Total current borrowings	**89**	690
Total interest-bearing borrowings	**5 915**	5 614

Figures in million	SA rand 2019	SA rand 2018
The maturity of borrowings is as follows:		
Current	**89**	702
Between one to two years	**4 232**	497
Between two to four years	**1 594**	4 415
	5 915	5 614

Figures in million	SA rand 2019	SA rand 2018
Undrawn committed borrowing facilities:		
Expiring within one year	**—**	—
Expiring after one year	**1 277**	845
	1 277	845

29 BORROWINGS continued

EFFECTIVE INTEREST RATES

	2019 %	2018 %
R1 billion revolving credit facility	**10.1**	10.2
R2 billion facility	**10.0**	—
Westpac fleet loan	**5.5**	—
US$250 million revolving credit facility	**—**	4.2
US$350 million facility	**5.6**	4.8
US$200 million bridge loan	**5.1**	4.5

30 TRADE AND OTHER PAYABLES

ACCOUNTING POLICY

The group accrues for the cost of the leave days granted to employees during the period in which the leave days accumulate.

	SA rand	
Figures in million	**2019**	2018
Financial liabilities		
Trade payables	**763**	587
Other liabilities (a)	**167**	182
Non-financial liabilities		
Payroll accruals	**548**	569
Leave liabilities (b)	**540**	504
Shaft related accruals	**556**	577
Other accruals	**148**	201
Value added tax	**98**	84
Income and mining tax	**55**	—
Total trade and other payables	**2 875**	2 704

(a) Includes a loan from Village Main Reef Limited of R53 million. The loan was taken on with the acquisition of the Moab Khotsong operations. The loan is unsecured, interest free and has no fixed terms of payment.

(b) Employee entitlements to annual leave are recognised on an ongoing basis. An accrual is made for the estimated liability for annual leave as a result of services rendered by employees up to the balance sheet date. The movement in the liability recognised in the balance sheet is as follows:

	SA rand	
Figures in million	**2019**	2018
Balance at beginning of year	**504**	395
Benefits paid	**(537)**	(425)
Total expense per income statement	**575**	391
Acquisition[1]	**—**	140
Translation (gain)/loss	**(2)**	3
Balance at end of year	**540**	504

[1] Acquisition of Moab Khotsong operations in 2018.

31 CASH GENERATED BY OPERATIONS

Figures in million	SA rand 2019	2018	2017
Reconciliation of profit/(loss) before taxation to cash generated by operations:			
Profit/(loss) before taxation	**(2 746)**	(4 707)	(148)
Adjustments for:			
Amortisation and depreciation	**4 054**	2 570	2 519
Impairment of assets	**3 898**	5 336	1 718
Share-based payments	**230**	363	391
Net decrease in provision for post-retirement benefits	**(12)**	(10)	(9)
Net decrease in provision for environmental rehabilitation	**(53)**	(27)	(111)
Profit on sale of property, plant and equipment	**(5)**	(2)	(42)
Loss on scrapping of property, plant and equipment	**21**	1	140
(Profit)/loss from associates	**(59)**	(38)	22
Gain on bargain purchase	**—**	—	(848)
Investment income	**(308)**	(343)	(268)
Finance costs	**575**	330	234
Inventory adjustments	**(166)**	(211)	422
Foreign exchange translation difference	**95**	668	(224)
Non cash portion of gains on derivatives	**(429)**	549	(100)
Day one loss amortisation	**32**	37	94
Silicosis settlement provision	**(62)**	(68)	917
Other non-cash adjustments	**(11)**	(70)	(88)
Effect of changes in operating working capital items			
Receivables	**32**	(106)	(409)
Inventories	**(88)**	(351)	24
Payables	**54**	368	112
Cash generated by operations	**5 052**	4 289	4 346

ADDITIONAL CASH FLOW INFORMATION

The income and mining taxes paid in the statement of cash flow represents actual cash paid less refunds received. Investment income from restricted investments is considered non-cash for the purposes of the cash flow statement. Included in investment income is interest earned from restricted investments of R168 million (2018: R157 million) (2017: R153 million).

At 30 June 2019, R1 277 million (2018: R845 million) (2017: R2 142 million) of borrowing facilities had not been drawn down and is therefore available for future operation activities and future capital commitments. Refer to note 29.

a) Acquisitions of investments/business

The conditions precedent for the acquisition of Moab Khotsong operations in 2018 and full ownership of Hidden Valley in 2017 were fulfilled and the transaction were completed in the respective years. Refer to note 12 for details on the acquired assets, including cash acquired and assumed liabilities.

b) Principal non-cash transactions

Share-based payments (refer to note 33).

32 EMPLOYEE BENEFITS

ACCOUNTING POLICY

- **Pension, provident and medical benefit plans** are funded through monthly contributions. The group pays fixed contributions into a separate entity in terms of the defined contribution pension, provident and medical plans which are charged to the income statement in the year to which they relate. The group's liability is limited to its monthly determined contributions and it has no further liability, legal or constructive, if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. Refer to note 27 for details of the post-retirement medical benefit plan.

- **Termination benefits** are payable when employment is terminated before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The group recognises termination benefits at the earlier of the following dates: (a) when the group can no longer withdraw the offer of those benefits; and (b) when the entity recognises costs for a restructuring that is within the scope of IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*, and involves the payment of termination benefits. In the case of an offer made to encourage voluntary redundancy, the termination benefits are measured based on the number of employees expected to accept the offer. Benefits falling due more than 12 months after balance sheet date are discounted to present value.

	2019	2018
Number of permanent employees as at 30 June:		
South African operations	**31 199**	32 520
International operations[1]	**1 638**	1 511
Total number of permanent employees	**32 837**	34 031

	SA rand	
Figures in million	2019	2018
Aggregate earnings		
The aggregate earnings of employees including executive directors were:		
Salaries and wages and other benefits (excluding share-based payments)	**10 623**	8 930
Retirement benefit costs	**766**	638
Medical aid contributions	**259**	227
Total aggregated earnings[2]	**11 648**	9 795

[1] The Wafi-Golpu joint operation's employees included in the total is 194 (2018: 114).
[2] These amounts have been included in cost of sales, corporate expenditure and capital expenditure.

During the 2019 financial year, R248 million (2018: R216 million) was included in the payroll costs for termination costs. Termination costs include the cost relating to the voluntary retrenchment and restructuring process as well as retrenchments due to shaft closures (refer to note 6).

33 SHARE-BASED PAYMENTS

ACCOUNTING POLICY

The group operates the following employee share incentive plans where the group granted share options to certain employees in exchange for services received:
- the 2006 equity-settled share-based payments plan; and
- the equity-settled Sisonke Employee Share Ownership Plan (ESOP) awarded in 2019.

Equity-settled share-based payments are measured at fair value that includes market performance conditions but excludes the impact of any service and non-market performance conditions of the equity instruments at the date of the grant. The share-based payments are expensed over the vesting period, based on the group's estimate of the shares that are expected to eventually vest. The group used an appropriate option pricing model in determining the fair value of the options granted. Non-market vesting conditions are included in assumptions about the number of options that are expected to vest. At each balance sheet date, the estimates of the number of options that are expected to become exercisable are revised.

The impact of the revision of original estimates, if any, is recognised in the income statement, with a corresponding adjustment to equity. The proceeds received (if any) net of any directly attributable transaction costs are credited to share capital and premium when the options are exercised.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The fair value of options granted under the 2006 plan was determined using a Monte Carlo valuation model. The significant inputs into the model are: vesting period, risk free interest rate, volatility, price on date of grant and dividend yield. There were no options granted under the 2006 plan in the current financial period. The fair value of the options granted under the Sisonke ESOP was based on the Harmony spot share price of R28.29 at grant date as there were no market condition attached to the grant.

EMPLOYEE SHARE-BASED PAYMENTS

The objective of these schemes is to recognise the contributions of employees to the group's financial position and performance and to retain key employees.

The total cost relating to employee share-based payments is made up as follows:

	SA rand	
Figures in million	**2019**	2018
2006 share plan	**197**	363
Sisonke ESOP	**33**	—
Total employee share-based payments	**230**	363

The directors are authorised to issue up to 60 011 669 ordinary shares to participants who have received awards in accordance with Harmony's employee share incentive schemes. Subsequent to the annual general meeting held on 1 December 2010, 37 546 904 shares have been issued in terms of the various share schemes. At 30 June 2019, 27 720 640 share option awards are outstanding in terms of the authorisation and relate to the 2006 share plan.

In December 2018, the board approved the new Total Incentive Plan for management which includes share options. The first allocations under the new plan is expected to occur in October 2019.

33 SHARE-BASED PAYMENTS continued

EMPLOYEE SHARE-BASED PAYMENTS continued

Options granted under the 2006 share plan

The 2006 share plan consists of share appreciation rights (SARs), performance shares (PS) and restricted shares (RS). The share plan is equity-settled.

Award	Vesting	Performance criteria
SARs	SARs will vest in equal thirds in year three, four and five, subject to the performance conditions having been satisfied. The SARs will have an expiry date of six years from the grant date and the offer price equals the closing market prices of the underlying shares on the trading date immediately preceding the grant.	*2012 to 2014 allocation:* The group's headline earnings per share must have grown since the allocation date by more than the South African Consumer Price Index (CPI).
PS	The PS will vest after three years from the grant date, if and to the extent that the performance conditions have been satisfied.	*2015 to 2017 allocation:* • 50% of the number of rights awarded are linked to the total shareholder return of the group on an absolute basis. • 50% of the number of rights awarded are linked to the total shareholder return of the group as compared to that of the South African gold index. *2014 allocation:* • the number of the rights awarded are linked to the group's performance in comparison to the South African Gold Index.
RS	The RS will vest after three years from grant date.	The participant is still employed within the group.

Termination of employees' participation in the share plan is based on "no fault" and "fault" definitions.

• Fault	All unvested and unexercised SARs and all PS and RS not yet vested are lapsed and cancelled.
• No fault	Accelerated vesting occurs and all unvested and unexercised share options are settled in accordance with the rules of the plan

Executive management is encouraged to retain performance shares when they vest and a minimum shareholding requirement has been introduced to achieve this. This shareholding is meant to align shareholder and executive objectives to grow total shareholder return.

33 SHARE-BASED PAYMENTS continued

EMPLOYEE SHARE-BASED PAYMENTS continued

Options granted under the 2006 share plan continued

Activity on share options

	SARs		PS	RS
Activity on options and rights granted but not yet exercised	**Number of options and rights**	**Weighted average option price (SA rand)**	**Number of rights**	**Number of rights**
For the year ended 30 June 2019				
Balance at beginning of year	**9 847 860**	**50.20**	**42 427 284**	**550 996**
Options exercised	**(1 564 486)**	**27.50**	**(20 166 093)**	**(550 996)**
Options forfeited and lapsed	**(1 570 330)**	**56.29**	**(1 253 595)**	**—**
Balance at end of year	**6 713 044**	**26.45**	**21 007 596**	**—**

	SARs		PS	RS
Activity on options and rights granted but not yet exercised	**Number of options and rights**	**Weighted average option price (SA rand)**	**Number of rights**	**Number of rights**
For the year ended 30 June 2018				
Balance at beginning of year	12 476 697	32.60	37 848 573	701 412
Options granted	—	—	14 406 437	—
Options exercised	(794 351)	24.37	(3 873 467)	(120 000)
Options forfeited and lapsed	(1 834 486)	52.86	(5 954 259)	(30 416)
Balance at end of year	9 847 860	50.20	42 427 284	550 996

	SARs		PS and RS	
Options and rights vested but not exercised at year end	**2019**	2018	**2019**	2018
Options and rights vested but not exercised	**5 692 965**	5 331 335	**—**	—
Weighted average option price (SA rand)	**27.89**	36.26	**n/a**	n/a

33 SHARE-BASED PAYMENTS continued

EMPLOYEE SHARE-BASED PAYMENTS continued

Options granted under the 2006 share plan continued

Activity on share options continued

List of options and rights granted but not yet exercised (listed by grant date)	Number of options and rights	Award price (SA rand)	Remaining life (years)
As at 30 June 2019			
Share appreciation rights			
15 November 2013	**3 652 807**	**33.18**	**0.4**
17 November 2014	**3 060 237**	**18.41**	**1.4**
	6 713 044		
Performance shares			
29 November 2016	**7 944 126**	**n/a**	**0.4**
15 November 2017	**13 063 470**	**n/a**	**1.4**
	21 007 596		
Total options and rights granted but not yet exercised	**27 720 640**		

	SA rand	
Figures in million	**2019**	2018
Gain realised by participants on options and rights traded during the year	**484**	164
Fair value of options and rights exercised during the year	**489**	181

Options granted under the Sisonke ESOP

In December 2017 Harmony approved the establishment of the Sisonke ESOP with the aim to facilitate beneficial interest and ownership by non-managerial employees in South Africa (the beneficiaries) of Harmony shares in order to:

- facilitate economic empowerment of Harmony's employees;
- incentivise Harmony's employees, so as to promote the shared interests of employees and shareholders in the value growth of Harmony; and
- further align the interests of the Harmony shareholders and those of the employees of Harmony.

The shares were issued to the Harmony ESOP Trust (the Trust) on 15 January 2019 which is also the date on which the required service period of three years commenced. Each beneficiary under the scheme was awarded 225 Participation Units (PU). The Sisonke ESOP is equity-settled.

Award	Vesting	Performance criteria
PU*	The PU will vest after three years from the date on which the service period commenced	The participant is still employed within the group

*The term Participation Units means the vested rights of a beneficiary to an equal number of Harmony shares held by the Trust.

Termination of employees' participation in the share plan is based on "no fault" and "fault" definitions.

• Fault	All unvested and unexercised PU not yet vested are lapsed and cancelled.
• No fault	Accelerated vesting occurs and all unvested and unexercised PU are settled in accordance with the rules of the plan

33 SHARE-BASED PAYMENTS continued

EMPLOYEE SHARE-BASED PAYMENTS continued

Options granted under the Sisonke ESOP continued

Activity on share options

	Number of PU	
Activity on PU granted but not exercised	**2019**	2018
Balance at beginning of year	**—**	—
PU granted	**6 974 500**	—
Options vested	**(107 100)**	—
Options forfeited and lapsed	**(48 375)**	—
Balance at end of year	**6 819 025**	—

	2019	2018
Gain realised by participants on options exercised during the year (R'million)	**3**	n/a
Weighted average share price at the date of exercise (SA rand)	**27.16**	n/a
Remaining life (years)	**2.5**	n/a

OTHER SHARE-BASED PAYMENTS

On 20 March 2013 Harmony signed transaction and funding agreements to give effect to an empowerment transaction to dispose of 30% of its Free State based Phoenix operation (Phoenix) to BEE shareholders, which includes a free-carry allocation of 5% to a community trust that has been created and is currently controlled by Harmony. The transaction closed on 25 June 2013, following the fulfilment of the last condition precedent. In terms of the agreements Phoenix was transferred to a newly incorporated subsidiary; 'PhoenixCo' which subsequently changed its name to Tswelopele Beneficiation Operation (TBO).

The awards to the BEE partners have been accounted for as in-substance options as the BEE partners will only share in the upside, and not the downside of their equity interest in TBO until the date the financing provided by Harmony is fully repaid. On this date the options will be exercised and a non-controlling interest in TBO will be recognised. The award of the options to the BEE partners is accounted for by the group as an equity-settled share-based payment arrangement. The in-substance options carry no vesting conditions and the fair value of the options of R23 million was expensed on the grant date, 25 June 2013.

34 RELATED PARTIES

None of the directors or major shareholders of Harmony or, to the knowledge of Harmony, their families, had an interest, directly or indirectly, in any transaction from 1 July 2016 or in any proposed transaction that has affected or will materially affect Harmony or its subsidiaries, other than as stated below.

DIRECTORS AND OTHER KEY MANAGEMENT

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the group, directly or indirectly, including any director (whether executive or otherwise) of the group.

34 RELATED PARTIES continued

DIRECTORS AND OTHER KEY MANAGEMENT continued

The directors' remuneration is as follows:

Figures in million	Executive directors (SA rand)	Non-executive directors (SA rand)
2019		
Salaries	**18**	**—**
Retirement contributions	**3**	**—**
Bonuses	**14**	**—**
Exercise/settlement of share options	**30**	**—**
Directors' fees	**—**	**12**
	65	**12**
2018		
Salaries	17	—
Retirement contributions	2	—
Bonuses	13	—
Exercise/settlement of share options	3	
Directors' fees	—	10
	35	10

The following directors and prescribed officers owned shares in Harmony at year-end:

Name of director/prescribed officer	Number of shares 2019	Number of shares 2018
Directors		
Peter Steenkamp[1]	**512 000**	—
Andre Wilkens	**101 301**	101 301
Frank Abbott [1]	**1 142 010**	747 817
Harry 'Mashego' Mashego[2]	**593**	593
Ken Dicks	**35 000**	35 000
Prescribed officers		
Beyers Nel	**42 486**	42 486
Johannes van Heerden [1]	**160 000**	75 000
Philip Tobias [1]	**169 294**	42 916

[1] The movement in shares for the 2019 financial year includes the vesting of performance shares that were voluntarily locked up in terms of the minimum shareholding requirement of the 2006 Share Plan but remain beneficially owned.
[2] Sold 593 shares post year end on 21 August 2019.

Modise Motloba, Harmony's deputy chairman, is a director of Tysys Proprietary Limited (Tysys). Tysys entered into a contract with the group during the 2017 financial year to provide services relating to the group's small and medium enterprise development projects. The contract has a value of up to R5 million per annum. Approximately R4 million (2018: R6 million) was paid during FY19 relating to services rendered in the current and prior financial years. The contract has a 30-day notice period.

34 RELATED PARTIES continued

OTHER RELATED PARTIES

All the production of the group's South African operations is sent to Rand Refinery in which Harmony holds a 10.38% interest. Refer to note 20.

	SA rand	
Figures in million	**2019**	2018
Sales and services rendered to related parties		
Joint operations	**3**	11
Total	**3**	11

	SA rand	
Figures in million	**2019**	2018
Purchases and services acquired from related parties		
Directors	**4**	6
Associates	**40**	41
Total	**44**	47

35 COMMITMENTS AND CONTINGENCIES

COMMITMENTS AND GUARANTEES

	SA rand	
Figures in million	**2019**	2018
Capital expenditure commitments		
Contracts for capital expenditure	**313**	215
Share of joint venture's contracts for capital expenditure	**105**	58
Authorised by the directors but not contracted for	**1 499**	1 719
Total capital commitments	**1 917**	1 992

Contractual obligations in respect of mineral tenement leases amount to R83 million (2018: R59 million). This includes R81 million (2018: R58 million) for the Wafi-Golpu joint operation.

	SA rand	
Figures in million	**2019**	2018
Guarantees		
Guarantees and suretyships	**143**	143
Environmental guarantees[1]	**479**	479
Total guarantees	**622**	622

[1] At 30 June 2019, R89 million (2018: R75 million) has been pledged as collateral for environmental guarantees in favour of certain financial institutions. Refer to note 15.

35 COMMITMENTS AND CONTINGENCIES continued

CONTINGENT LIABILITIES

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Contingencies will only realise when one or more future events occur or fail to occur. The exercise of significant judgement and estimates of the outcome of future events are required during the assessment of the impact of such contingencies.

Litigation and other judicial proceedings as a rule raise difficult and complex legal issues and are subject to uncertainties and complexities including, but not limited to, the facts and circumstances of each particular case, issues regarding the jurisdiction in which the suit is brought and differences in applicable law. Upon resolution of any pending legal matter, the group may be forced to incur charges in excess of the presently established provisions and related insurance coverage. It is possible that the financial position, results of operations or cash flows of the group could be materially affected by the outcome of the litigation.

The following contingent liabilities have been identified:

(a) On 1 December 2008, Harmony issued 3 364 675 Harmony shares to Rio Tinto Limited (Rio Tinto) for the purchase of Rio Tinto's rights to the royalty agreement entered into prior to our acquisition of the Wafi deposits in PNG. The shares were valued at R242 million on the transaction date. An additional US$10 million in cash will be payable when the decision to mine is made. Of this amount, Harmony is responsible for paying the first US$6 million, with the balance of US$4 million being borne equally by the joint operators.

(b) The group may have a potential exposure to rehabilitate groundwater and radiation that may exist where the group has and/or continues to operate. The group has initiated analytical assessments to identify, quantify and mitigate impacts if and when (or as and where) they arise. Numerous scientific, technical and legal studies are underway to assist in determining the magnitude of the contamination and to find sustainable remediation solutions. The group has instituted processes to reduce future potential seepage and it has been demonstrated that Monitored Natural Attenuation (MNA) by the existing environment will contribute to improvement in some instances. Water treatment facilities were successfully implemented at Doornkop, Tshepong Operations and Kusasalethu. These facilities are now assisting in reducing our dependency on state supplied potable water and will be key in managing any post closure decant should it arise.

In terms of Free State operations, Harmony has taken the initiative to develop a comprehensive regional closure plan in addition to updating the regional water balance, which will ensure that there is sufficient water for our organic growth initiatives. The geohydrological studies confirm that there is no risk of decant in Welkom.

Should the group determine that any part of these contingencies require them being recorded and accounted for as liabilities, that is where they become estimable and probable, it could have a material impact on the financial statements of the group.

(c) Due to the interconnected nature of mining operations in South Africa, any proposed solution for potential flooding and potential decant risk posed by deep groundwater needs to be a combined one, supported by all the mines located in these goldfields. As a result, the Department of Mineral Resources and Energy and affected mining companies require the development of a regional mine closure strategy. Harmony operations have conducted a number of specialist studies and the risk of surface decant due to rising groundwater levels has been obviated at the entire Free State region and Kalgold. In addition, the decant from the KOSH groundwater system tied with our Moab Khotsong operation has been managed through an appropriate groundwater closure plan and sufficient provision has been set aside for this. Therefore, there is no contingency arising from these operations. Additional studies have been commissioned at Doornkop and Kusasalethu. In view of the limitation of current information for accurate estimation of a liability, no reliable estimate can be made for these operations.

(d) The individual Harmony mining operations have applied for the respective National Water Act, Section 21 Water Use Licenses (WUL) to the Department of Water and Sanitation (DWS). The respective Water Use License Applications (WULA's) have subsequently not yet been approved by DWS. Two WUL have been issued by DWS for Kalgold and Kusasalethu (amendment currently being drafted for both operations), with neither licence having any material impact to the operation. The remaining WULA's have not yet been approved by DWS. The WUL conditions for the respective operations are subsequently not yet known and the subsequent potential water resource impact liability as part of the mine rehabilitation and closure process (to which DWS is an important participant and decision maker) is uncertain. The existing WUL for Moab Khotsong, which was recently acquired by Harmony, has already been approved by the DWS. The transferral of the licence and its conditions to Harmony is currently being processed.

(e) In terms of the sale agreements entered into with Rand Uranium, Harmony retained financial exposure relating to environmental disturbances and degradation caused by it before the effective date, in excess of R75 million of potential claims. Rand Uranium is therefore liable for all claims up to R75 million and retains legal liability. The likelihood of potential claims cannot be determined presently and no provision for any liability has been made in the financial statements.

(f) Legal proceedings commenced in December 2010 against the Hidden Valley mine in PNG over alleged damage to the Watut River (which runs adjacent to the Hidden Valley mine), alleged to have been caused by waste rock and overburden run-off from the mine. The damages sought by the plaintiffs were not specified. No active steps had been taken by the plaintiffs in this proceeding for more than five years. During 2019, the court dismissed the case as there had been no furtherance of the issue by the plaintiffs.

36 SUBSEQUENT EVENTS

(a) On 26 July 2019, the Johannesburg High Court approved the R5.2 billion settlement of the silicosis and tuberculosis class action suit between the Occupational Lung Disease Working Group – representing Gold Fields, African Rainbow Minerals, Anglo American SA, AngloGold Ashanti, Harmony and Sibanye Stillwater – and lawyers representing affected mineworkers. After a mandatory three-month period, during which potential beneficiaries can opt out of the settlement agreement, the settlement funds will be used to establish the Tshiamiso Trust. The trust will track and trace class members, process all submitted claims, including the undertaking of benefit medical examinations, and pay benefits to eligible claimants. The approval does not impact on the amount of the provision recognised. Refer to note 26.

(b) On 19 August 2019, Harmony and a syndicate of local and international lenders entered into a loan facility agreement which was jointly arranged by Nedbank Limited and ABSA Bank Limited, comprising a revolving credit facility (RCF) of up to US$200 million and a term portion of up to US$200 million. The tenor of the facility is three years with an option to extend by another one year. The rate for the term loan is LIBOR plus 3.05% and LIBOR plus 2.90% for the RCF. Conditions precedent were fulfilled on 26 September 2019 and financial close was on 2 October 2019, with US$5 million (R76 million) being drawn on, resulting in an outstanding balance of US$300 million (R4.6 billion) and undrawn balance of US$100 million (R1.4 billion).

37 SEGMENT REPORT

ACCOUNTING POLICY

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker (CODM). The chief operating decision-maker has been identified as the CEO's office.

The group has one main economic product, being gold. In order to determine operating and reportable segments, management reviewed various factors, including geographical location as well as managerial structure. It was determined that an operating segment consists of a shaft or a group of shafts or open pit mine managed by a single general manager and management team.

After applying the qualitative and quantitative thresholds from IFRS 8, *Operating Segments*, the reportable segments were determined as: Tshepong Operations, Bambanani, Joel, Doornkop, Moab Khotsong, Hidden Valley, Target 1, Kusasalethu, Masimong and Unisel. All other operating segments have been grouped together under all other surface operations.

The CODM has been identified as the CEO's office consisting of the chief executive officer, financial director, director corporate affairs, chief operating officer: new business, chief executive officer: South-east Asia and chief operating officer: South Africa. When assessing profitability, the CODM considers the revenue and production costs of each segment. The net of these amounts is the production profit or loss. Therefore, production profit has been disclosed in the segment report as the measure of profit or loss. The CODM also considers capital expenditure, gold production and tonnes milled when assessing the overall economic sustainability of each segment. The CODM, however, does not consider depreciation or impairment and therefore these amounts have not been disclosed in the segment report.

Segment assets consist of mining assets and mining assets under construction included under property, plant and equipment which can be attributed to the segment. Current and non-current group assets that are not allocated at a segment level form part of the reconciliation to total assets.

A reconciliation of the segment totals to the group financial statements has been included in note 38.

37 SEGMENT REPORT continued

	Revenue 30 June			Production cost 30 June			Production profit/ (loss) 30 June			Mining assets 30 June			Capital expenditure# 30 June			Kilograms produced* 30 June			Tonnes milled* 30 June		
	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017
	Rand million			Rand million			Rand million			Rand million			Rand million			Kg			t'000		
South Africa																					
Underground																					
Tshepong Operations	**4 685**	5 389	5 062	**3 973**	3 799	3 671	**712**	1 590	1 391	**6 297**	8 078	8 466	**1 130**	1 008	717	**7 967**	9 394	8 828	**1 612**	1 716	1 695
Moab Khotsong	**4 470**	1 672	—	**3 101**	952	—	**1 369**	720	—	**3 634**	3 670	—	**559**	173	—	**7 928**	3 296	—	**970**	327	—
Bambanani	**1 477**	1 616	1 576	**994**	896	871	**483**	720	705	**562**	659	745	**61**	64	77	**2 515**	2 821	2 750	**230**	233	231
Joel	**957**	954	1 309	**971**	920	936	**(14)**	34	373	**947**	995	909	**187**	250	243	**1 567**	1 635	2 246	**429**	454	514
Doornkop	**1 931**	1 958	1 553	**1 564**	1 411	1 241	**367**	547	312	**2 759**	2 721	2 979	**308**	274	243	**3 273**	3 429	2 673	**730**	696	641
Target 1	**1 585**	1 630	1 506	**1 491**	1 318	1 345	**94**	312	161	**1 076**	1 260	2 021	**297**	309	324	**2 653**	2 854	2 669	**588**	680	745
Kusasalethu	**2 975**	2 483	2 575	**2 395**	2 026	2 080	**580**	457	495	**1 300**	2 151	2 846	**316**	289	289	**4 989**	4 429	4 394	**742**	670	607
Masimong	**1 359**	1 505	1 452	**1 205**	1 154	1 113	**154**	351	339	**106**	57	433	**109**	129	119	**2 309**	2 623	2 538	**602**	647	640
Unisel	**713**	733	915	**564**	771	838	**149**	(38)	77	**46**	38	529	**45**	85	78	**1 212**	1 280	1 595	**256**	376	394
Surface																					
All other surface operations	**2 403**	2 009	1 816	**1 938**	1 521	1 404	**465**	488	412	**724**	553	486	**84**	136	261	**4 099**	3 570	3 178	**15 931**	14 143	11 045
Total South Africa	**22 555**	19 949	17 764	**18 196**	14 768	13 499	**4 359**	5 181	4 265	**17 451**	20 182	19 414	**3 096**	2 717	2 351	**38 512**	35 331	30 871	**22 090**	19 942	16 512
International																					
Hidden Valley (a)	**3 591**	409	1 500	**1 362**	234	1 313	**2 229**	175	187	**3 694**	3 884	2 290	**1 591**	1 563	1 335	**6 222**	2 862	2 965	**3 886**	2 499	2 889
Total international	**3 591**	409	1 500	**1 362**	234	1 313	**2 229**	175	187	**3 694**	3 884	2 290	**1 591**	1 563	1 335	**6 222**	2 862	2 965	**3 886**	2 499	2 889
Total operations	**26 146**	20 358	19 264	**19 558**	15 002	14 812	**6 588**	5 356	4 452	**21 145**	24 066	21 704	**4 687**	4 280	3 686	**44 734**	38 193	33 836	**25 976**	22 441	19 401
Reconciliation of segment information to the consolidated income statement and balance sheet	**766**	94	230	**766**	82	230	**—**	12	—	**15 591**	15 455	17 179									
	26 912	20 452	19 494	**20 324**	15 084	15 042	**6 588**	5 368	4 452	**36 736**	39 521	38 883	**4 687**	4 280	3 686	**44 734**	38 193	33 836	**25 976**	22 441	19 401

Capital expenditure for international operations excludes expenditure spent on Wafi-Golpu of R350 million (2018: R288 million) (2017: R197 million).

(a) Capital expenditure for 2018 comprises of expenditure of R2 609 million net of capitalised revenue of R1 046 million. No revenue was capitalised in 2017 or 2019.

* Production statistics are unaudited.

38 RECONCILIATION OF SEGMENT INFORMATION TO CONSOLIDATED INCOME STATEMENTS AND BALANCE SHEETS

	SA rand		
Figures in million	**2019**	2018	2017
Reconciliation of production profit to consolidated profit/(loss) before taxation			
Revenue per segment report	**26 146**	20 358	19 264
Revenue per income statement	**26 912**	20 452	19 494
Other metal sales treated as by-product credits in the segment report	**(766)**	(93)	(230)
Other adjustments	**—**	(1)	—
Production costs per segment report	**(19 558)**	(15 002)	(14 812)
Production costs per income statement	**(20 324)**	(15 084)	(15 042)
Other metal sales treated as by-product credits in the segment report	**766**	93	230
Other adjustments	**—**	(11)	—
Production profit per segment report	**6 588**	5 356	4 452
Revenue not included in segments	**—**	1	—
Production costs adjustments not included in segments	**—**	11	—
Cost of sales items other than production costs	**(8 545)**	(8 512)	(4 827)
Amortisation and depreciation of mining assets	**(3 961)**	(2 468)	(2 441)
Amortisation and depreciation of assets other than mining assets	**(93)**	(102)	(78)
Rehabilitation expenditure	**(33)**	(67)	(23)
Care and maintenance cost of restructured shafts	**(134)**	(128)	(109)
Employment termination and restructuring costs	**(242)**	(208)	(74)
Share-based payments	**(155)**	(244)	(391)
Impairment of assets	**(3 898)**	(5 336)	(1 718)
Other	**(29)**	41	7
Gross profit/(loss)	**(1 957)**	(3 144)	(375)
Corporate, administration and other expenditure	**(731)**	(813)	(517)
Exploration expenditure	**(148)**	(135)	(241)
Gain on derivatives	**484**	99	1 025
Other operating expenses	**(186)**	(667)	(886)
Operating profit/(loss)	**(2 538)**	(4 660)	(994)
Gain on bargain purchase	**—**	—	848
Loss on liquidation of subsidiaries	**—**	—	(14)
Share on profit/(loss) from associate	**59**	38	(22)
Acquisition-related costs	**—**	(98)	—
Investment income	**308**	343	268
Finance costs	**(575)**	(330)	(234)
Profit/(loss) before taxation	**(2 746)**	(4 707)	(148)

38 RECONCILIATION OF SEGMENT INFORMATION TO CONSOLIDATED INCOME STATEMENTS AND BALANCE SHEETS continued

	SA rand		
Figures in million	**2019**	2018	2017
Reconciliation of total segment assets to consolidated assets includes the following:			
Non-current assets			
Property, plant and equipment	**6 604**	6 903	8 340
Intangible assets	**533**	545	603
Restricted cash	**92**	77	64
Restricted investments	**3 301**	3 271	2 658
Investments in associates	**110**	84	46
Inventories	**43**	46	38
Other non-current assets	**334**	264	189
Derivative financial asset	**197**	84	306
Current assets			
Inventories	**1 967**	1 759	1 127
Restricted cash	**44**	38	18
Trade and other receivables	**1 064**	1 139	1 003
Derivative financial assets	**309**	539	1 541
Cash and cash equivalents	**993**	706	1 246
	15 591	15 455	17 179