



MINERALS COUNCIL
SOUTH AFRICA

OCTOBER 2020

FACTS AND FIGURES 2019

#MakingMiningMatter

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FOREWORD

As mining plays a significant role in the economy of our nation, it is important for industry data to be freely available so that stakeholders can understand how the sector is performing.

In this document, Minerals Council Chief Economist, Henk Langenhoven, and his team, use data to showcase our industry, and provide some insight into what the numbers mean for our country and the future of our mining industry.

It is crucial for the Minerals Council to avail credible statistics, which paint an accurate picture of the South African mining sector. Statistics allow us to fulfil our mandate as the voice of the mining industry in South Africa. They also allow us to accurately represent the wider impact of mining on the country and help all South Africans to develop a better, more nuanced understanding of the current state of the mining industry.

The Minerals Council's economics discipline plays a key role in gathering the data necessary for us and our members to properly understand the state of the sector and to work to improve its growth.

A Facts and Figures pocketbook 2019 was published just before the Mining Indaba 2020 and has been distributed widely – it is also currently available on the Minerals Council website. The pocketbook provides a snapshot of the industry and the impact that South Africa's mineral wealth has on our everyday lives.

This Facts and Figures 2019 publication is both an updated version of the pocketbook and a more comprehensive statistical reference guide to the South African mining sector.



MESSAGE FROM THE CEO

“The impact of the spread of COVID-19 will be felt intensely by our country for a long time to come.”



The Minerals Council’s annual Facts and Figures publication has become a well-used reference work for our industry, a ready and accessible document of record on all aspects one of the mainstays of the South African economy. So, it is a great pleasure to introduce to you the 2019 edition.

In some ways it is a little strange focusing on the events of 2019, with the benefit of the additional hindsight of what was to follow in 2020, and in particular the impact of the COVID-19 pandemic 2nd quarter lockdown on our industry and on the broader economy.

Roger Baxter
CEO – Minerals Council South Africa

Yet it remains important, as it contains all the building blocks for our industry as it begins, at the time of writing, its return of what we might term the post-COVID new normality.

Mining’s contribution to GDP in 2019 was higher by 7.3% in nominal terms than in 2018 (in real terms mining GDP contracted 1.9%). And our contribution to GDP rose to 8.3% from 8.1%. Minerals sales, employee earnings and taxes and royalties followed similar patterns.

However, we need to be conscious that these increases were a consequence only of volatile, but overall stronger rand and commodity prices. Production in fact fell by almost

2% compared with the previous year, which was itself down by almost that magnitude on 2017. Commodity prices will not continue rising forever. We need to reverse the declines in outputs of mined products and increase the ability of our mines to respond to better commodity prices with increased production.

This highlights the urgency of the implementation of the kinds of structural changes to our regulatory regime we have been talking about, and to our country’s economic policies we have been working with other parts of organised business on.

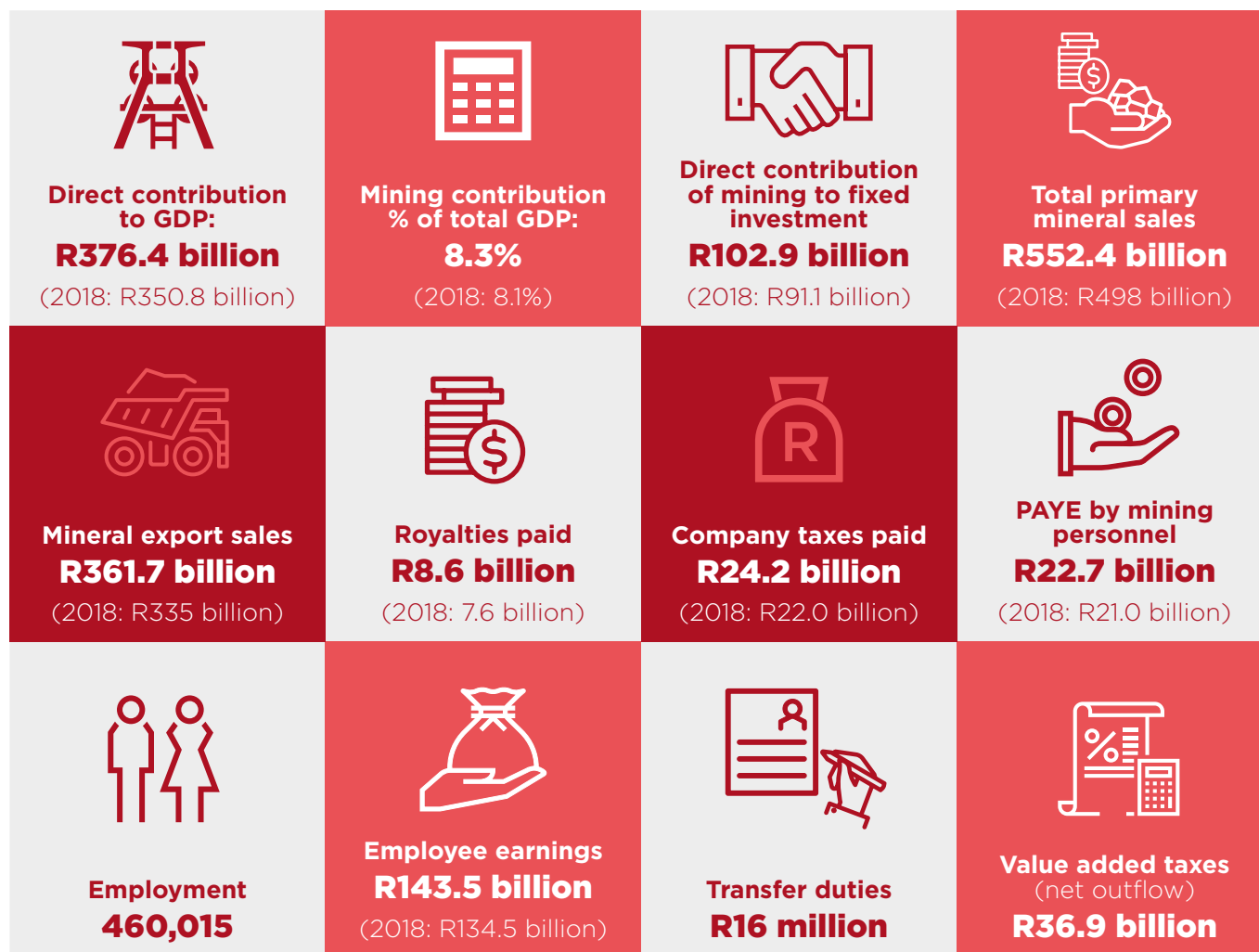
The most important of these are the logistical constraints such as inadequate rail and port capacity and, even more importantly, the insecurity of electricity supply. Infrastructure development and the easier permitting of self-generation of power by mining operations is critical.

While the industry’s safety performance showed a significant improvement with a 37% reduction in the number of fatalities, the Minerals Council and its members know that we cannot rest until we achieve our goal of zero harm.

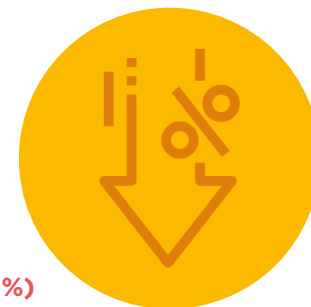
Roger Baxter
CEO – Minerals Council South Africa
October 2020

MINING AT A GLANCE

MINING CONTRIBUTION SUMMARY 2019



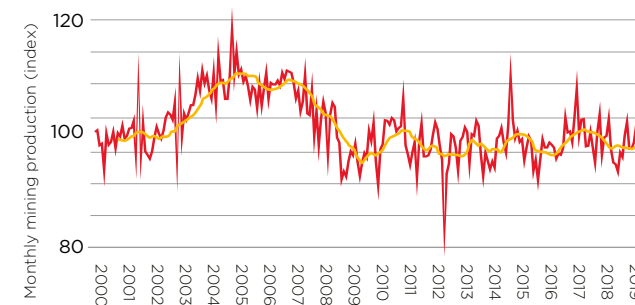
The 2019 mining sector GDP contracted by **1.9%** similar to the decline recorded in 2018 (-1.7%)



Despite mining production seeing some short-term improvement in the latter part of the year, the improvements were not strong or sustained enough to revise this outlook, even before the advent of COVID-19.

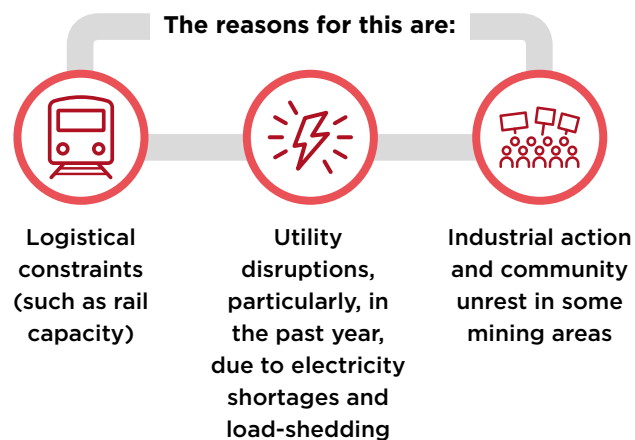
The mining production index graph shows that, since 2009, mining production has been unable to rise consistently above levels achieved in 2000.

Mining production (index): 2000-2019



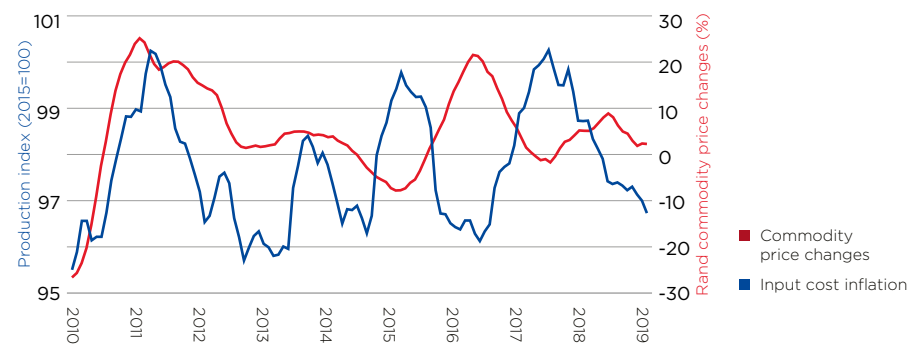
Source: Statistics South Africa, Minerals Council South Africa

MINING AT A GLANCE CONTINUED



A noteworthy feature of 2019 was the loss of approximately 26 tonnes of gold valued at approximately R1.6 billion as a direct result of the AMCU four-month strike in the gold industry, which ended in April 2019.

Commodity prices versus production: 2010-2019



Source: Minerals Council South Africa

Measured in South African Rands, commodity prices measured have been especially volatile recently.

In 2019, gold and PGMs were the best performers. The gold price surged on global uncertainties while the PGM basket was boosted by the prices of rhodium and palladium, which surged to their highest levels ever. From October 2018 to September 2019 coal prices dropped by 40% but by December 2019 had recovered to 27% below the peak. Iron ore prices jumped by 113% over a year to July 2019 but declined again by 26% by the end of 2019.

Mainly owing to the erratic supply of electricity and other structural constraints, the weighted average Rand price of the four major commodities – gold, PGMs, coal and iron ore – appears to have had little effect on mining production.

Nominal sales improved despite the lack of a response in production, due to the improved commodity prices, which have provided some reprieve. This is however not sustainable in the longer term for the viability of the mining sector. In time, commodity prices always correct and the poor fundamentals underpinning the sector will continue to constrain it.



OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

Commodity prices are driven by varying demand and supply dynamics. Moreover, given that most commodities are traded in United States Dollars (US\$) the exchange rate between the US\$ and the Rand introduces a further variable that must be taken into consideration. In certain instances, the two variables can reinforce each other while in others they can negate each other.

In 2019, PGMs, and particularly palladium and rhodium prices were the star commodities. Rhodium prices increased 76.1% in US\$ and 92.3% in Rand terms, while palladium prices increased 49.3% and 63% in US\$ and Rand terms, respectively. Supply deficits in these commodities have continued to support prices and the price outlook remains strong, particularly in the medium term. In US\$ terms, platinum prices decreased by 1.9%, however, the 9.2% weakening of the Rand against the US\$ resulted in a 7.1% increase in the Rand realised prices.

In 2019, iron ore prices also recorded strong gains, 34.6% in US\$ and 46.9% in Rand terms. Supply disruptions in Brazil resulted in price spikes globally. South Africa also enjoys a relatively higher iron ore grade which has good demand dynamics.

Coal prices remained under pressure in 2019 as the environmental concerns associated with the commodity intensified. Coal prices declined 26.3% in US\$ and 19.6% in Rand terms.

% change in commodity prices: 2019

	COAL	IRON ORE	GOLD	PLATINUM	RHODIUM	COPPER	NICKEL	ZINC
US DOLLAR	(26.3)	34.6	9.7	(1.9)	76.1	(8.0)	6.1	(12.7)
RAND	(19.6)	46.9	19.7	7.1	92.3	0.5	15.8	(4.7)

Source: Minerals Council South Africa, World Bank, South African Reserve Bank

Rhodium prices increased

76.1%

in US\$ and 92.3% in Rand terms

Palladium prices increased

49.3%

in US\$ and 63% Rand terms

On aggregate, as measured by the Minerals Council's commodity price index, US\$ commodity prices decreased by 2.2% while the Rand commodity price index increased by 6.9%. The commodity price index is a production weighted index based on South Africa's primary commodity production as published by Statistics South Africa. Commodity prices (in both US\$ and Rand) are then overlaid onto this weighted average to produce the index.

The US\$ and Rand commodity price indices are contained in the graph overleaf. The continued weakening of the exchange rate from 2011 has caused the sharp divergence between the indices as observed in the graph.

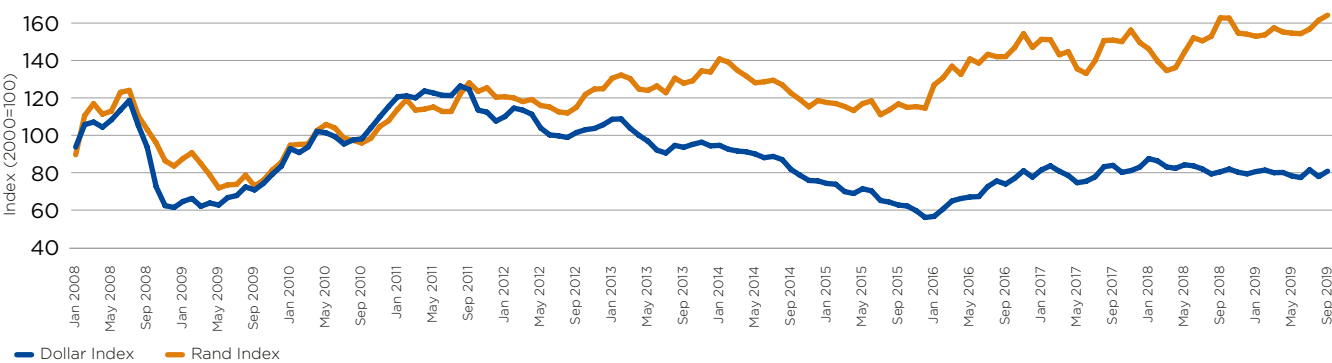


Implats – Marula mine

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

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Minerals Council commodity price index: 2008-2019



Source: Minerals Council South Africa

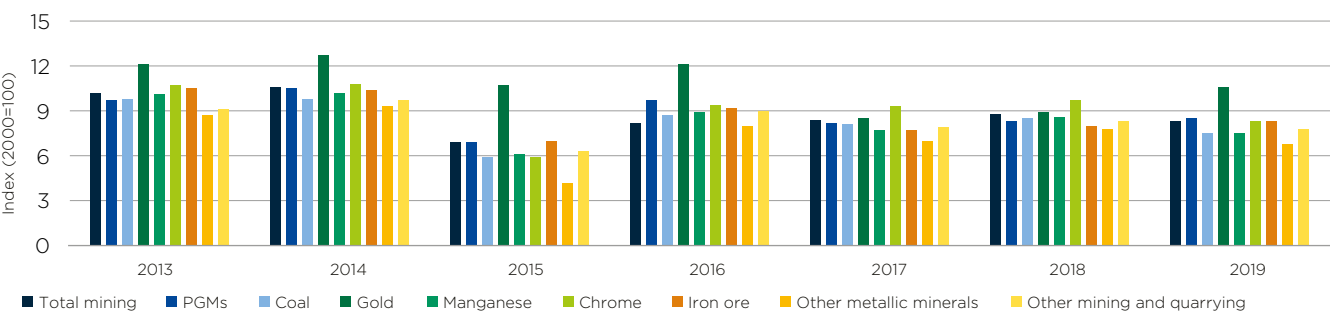
The viability of the mining sector is the result of the interaction between selling prices and input costs. It is important to note that the sector has no control over international commodity prices, nor does it have any influence on the level of the Rand currency exchange rate. Input costs are largely determined by domestic cost pressure, with imported costs accounting for approximately 12% of total input costs. Apart from labour costs (35%), nearly 50% of intermediary input costs are influenced by administered prices and provided by state-owned enterprises.

The Minerals Council South Africa has developed an input cost inflation index for the total mining sector and at commodity level. The input cost inflation index tracks 17 underlying cost variables and assigns a weight to each of the cost variables. The data is aggregated to compile the weighted input cost inflation index.

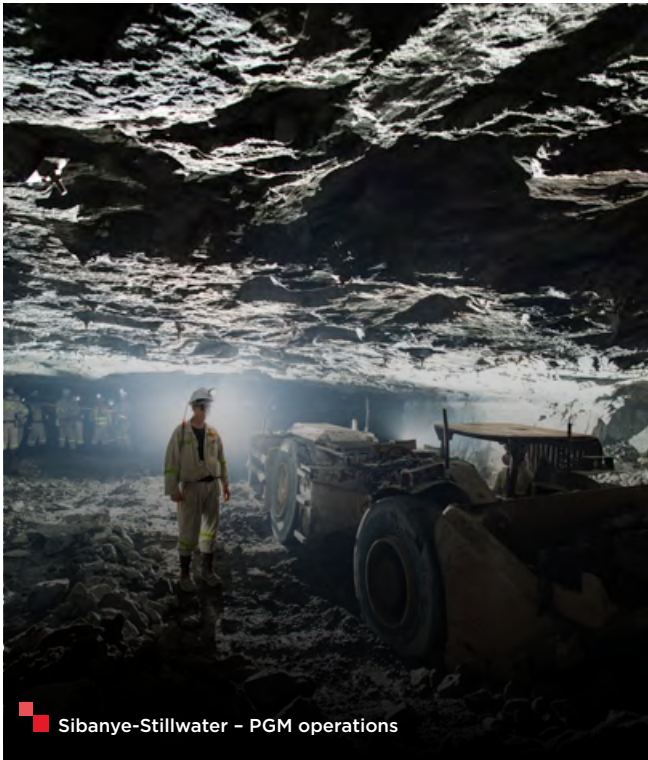
In 2019, the input cost inflation for the total mining sector was measured at 8.3%. The gold industry experienced the highest input cost inflation at 10.5%, while the category ‘other metallic minerals’ experienced the slowest inflationary

increase at 6.8%. The gold industry has historically recorded the highest input cost inflationary pressure in the mining sector, primarily because of the extent to which electricity is represented as an input cost. In the gold industry electricity accounts for 24% of intermediary input costs, while for the total mining sector electricity accounts for 11.2% of intermediary input costs. It therefore follows that the steep increase in South Africa’s electricity tariff would result in the gold industry recording the highest input cost inflationary pressure in the entire sector.

Input cost inflation (%): 2013-2019



Source: Minerals Council South Africa



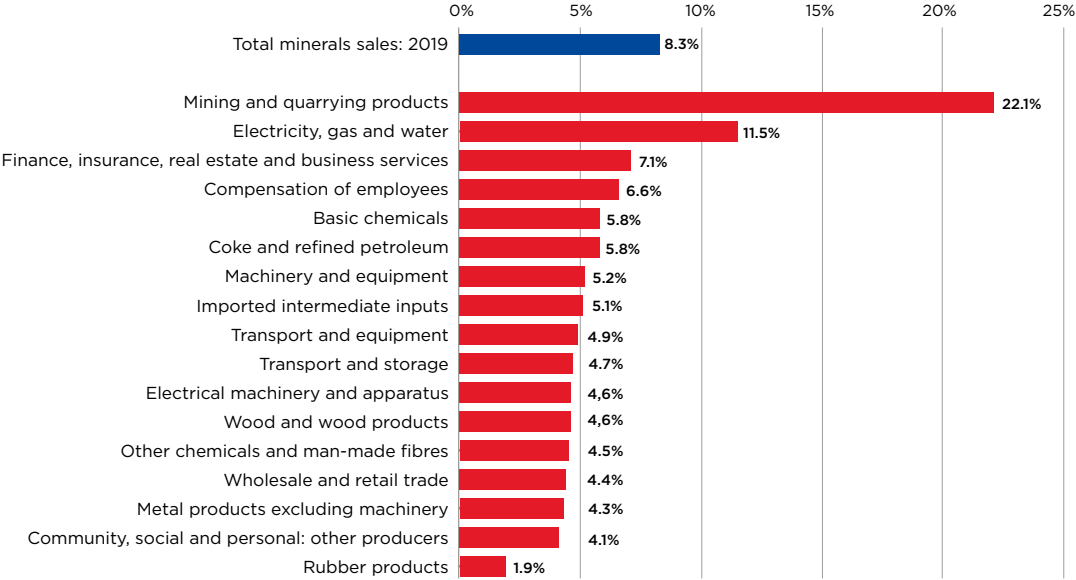
Sibanye-Stillwater – PGM operations

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

The graph below depicts the inflation recorded by the individual cost variables that inform the aggregate Minerals Council input cost index. In 2019, the category of costs ‘mining and quarrying’ (commodities sourced by the mining sector from the mining sector to enable production) recorded the highest increase at 22.1%. Electricity tariffs recorded the second highest inflation by increasing 11.5%.

Input cost inflation (per unit): 2019

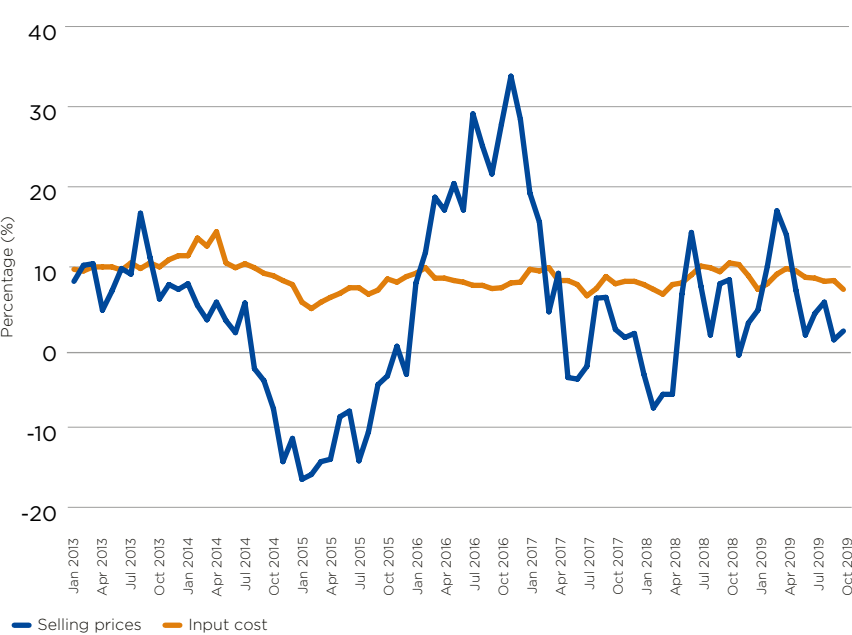


Source: Minerals Council South Africa

Comparing the Rand commodity selling prices which increased 6.9% and input costs inflation which increased 8.3% indicates pressure on profit margins at the sectoral level.

The graph below charts the selling price and input cost movements. The graph shows the historic context of value erosion in the sector, where selling prices fluctuate (and even turn negative in some instances) around a persistent input cost trend.

Input cost inflation and selling movements



Source: Minerals Council South Africa

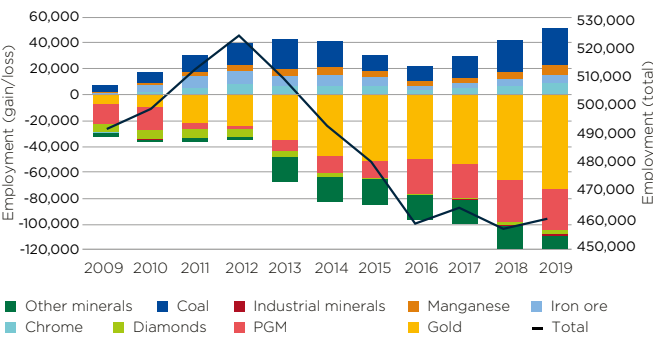
OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

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The net result of continually persistent input costs and fluctuating selling prices generally tends to manifest in the sectors employment trends.

Interestingly, in 2019, the total sector’s employment grew by 0.8% to 460,015 people. This is however still 64,854 people below the 2012 employment peak, indicating a persistent downward trajectory. It is also important to note that while some commodities will invariably shed jobs (because of reasons ranging from lower grades, depth or a decrease in the demand for the commodity), other commodities will increase employees. This is depicted in the graph below, which indicates that iron ore, manganese, chrome and coal have consistently been increasing jobs, while PGMs, gold, diamonds and industrial minerals have been shedding jobs. The latter commodities have shed more jobs than those commodities that have added hence the downward trajectory in total mining employment.

Total employment gains and losses by commodity



Source: Minerals Council South Africa, Department of Mineral Resources and Energy

Total minerals sales: 2019

Group	Commodity (R'000)	Total exports (R'000)	Local sales (R'000)	Total sales (R'000)	Exports as a % of total sales
Gold, PGMs, diamonds and silver	Gold	28,336,141	48,310,216	76,646,356	37.0
	PGMs	124,585,015	11,441,132	136,026,147	91.6
	Diamonds	7,664,806	5,504,878	13,169,684	58.2
	Silver	385,317	49,459	434,776	88.6
	Sub-total	160,971,279	65,305,685	226,276,963	71.1
Base minerals	Chrome	10,453,314	11,772,204	22,225,518	47.0
	Copper	1,886,540	1,341,935	3,228,476	58.4
	Iron ore	65,040,115	5,630,784	70,670,899	92.0
	Lead concentrate	966,655	1,102	967,757	99.9
	Manganese	43,280,475	1,751,826	45 032,300	96.1
	Nickel	6,121,685	1,098,402	7,220,087	84.8
	Zinc	3,519,916	-	3,519,916	100.0
	Coal	55,344,997	86,046,649	141,391,646	39.1
	Other non-metallic	3,320,720	3,099,988	6,420,708	51.7
	Miscellaneous	10,770,614	14,640,253	25,410,868	42.4
	Sub-total	200,705,031	125,383,143	326,088,175	
	Grand total	361,676,310	190,688,828	552,365,138	

Source: Department of Mineral Resources and Energy



OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

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Key mineral industry statistics for South Africa: 2009-2019

Description	Units of measure	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Year-on-year % change
GROSS DOMESTIC PRODUCT													
Direct contribution of mining to GDP (Value add)	R millions nominal terms	200,824	230,350	261,575	267,344	288,300	287,488	281,523	317,724	343,672	350,882	376,372	7.3%
Direct contribution of mining to GDP	R millions constant 2010 prices	218,830	230,350	228,646	221,990	230,772	226,791	234,247	225,035	234,522	230,514	226,154	(1.9%)
Mining GDP growth rate	% year-on-year		5.3	(0.7)	(2.9)	4.0	(1.7)	3.3	(3.9)	4.2	(1.7)	(1.9)	-
Direct contribution of mining to GDP	US\$ equivalent	23,802	31,459	36,064	32,563	29,875	26,510	22,079	21,601	25,815	26,514	26,049	(1.8%)
South African GDP (Value added at basic prices)	R millions nominal terms	2,277,146	2,494,860	2,724,400	2,932,880	3,183,618	3,414,943	3,624,908	3,891,558	4,173,328	4,341,292	4,523,580	4.2%
South African GDP (Value added at basic prices)	R millions constant 2010 prices	2,424,053	2,494,860	2,574,977	2,632,583	2,699,878	2,752,410	2,784,045	2,797,727	2,838,426	2,859,605	2,865,549	0.2%
Mining's contribution as % of total GDP nominal terms	%	8.8%	9.2%	9.6%	9.1%	9.1%	8.4%	7.8%	8.2%	8.2%	8.1%	8.3%	-
Mining's contribution as % of total GDP real terms	%	9.0%	9.2%	8.9%	8.4%	8.5%	8.2%	8.4%	8.0%	8.3%	8.3%	7.9%	-

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

Key mineral industry statistics for South Africa: 2009-2019 continued

Description	Units of measure	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Year-on-year % change
FIXED INVESTMENT													
Direct contribution of mining to fixed investment (GFCF)	R millions nominal terms	64,574	63,555	68,420	72,106	80,609	85,616	63,791	53,864	77,178	91,098	102,869	12.9%
Direct contribution of mining to fixed investment (GFCF)	R millions constant 2010 prices	65,969	63,555	65,953	65,438	67,333	66,995	48,606	38,797	53,949	61,072	67,668	10.8%
Total private sector fixed investment (private GFCF)	R millions nominal terms	342,142	341,517	380,411	406,000	470,179	511,839	525,404	545,608	579,589	607,599	636,640	4.8%
Total SA fixed investment (GFCF)	R millions nominal terms	539,440	529,431	578,014	625,643	721,234	775,950	822,576	846,552	873,223	886,428	908,878	2.5%
Mining fixed investment growth rate	% year-on-year	-	(3.7%)	3.8%	(0.8%)	2.9%	(0.5%)	(27.4%)	(20.2%)	39.1%	13.2%	10.8%	-
Direct contribution to fixed investment (GFCF)	US\$ equivalent	7,654	8,680	9,433	8,783	8,353	7,895	5,003	3,662	5,797.2	6,884	7,120	3.4%
Mining's contribution to private sector fixed investment (GFCF)	%	19%	19%	18%	18%	17%	17%	12%	10%	13%	15%	16%	-
Minings contribution as % of total investment	%	12%	12%	12%	12%	11%	11%	8%	6%	9%	10%	11%	-

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

Key mineral industry statistics for South Africa: 2009-2019 continued

Description	Units of measure	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Year-on-year % change
SALES AND EXPORTS													
Total primary mineral sales	R millions nominal terms	239,881	300,891	370,833	363,757	385,033	386,350	386,709	424,042	474,171	498,289	552,365	10.9%
Total primary mineral sales	US\$ equivalent	28,432	41,093	51,128	44,307	39,899	35,627	30,329	28,829	35,617	37,652	38,230	1.5%
Mining industry primary exports	R millions nominal terms	175,772	224,969	282,297	269,120	279,673	269,264	266,604	294,897	328,470	335,041	361,676	7.9%
Mining industry primary exports	US\$ equivalent	20,833	30,725	38,921	32,780	28,981	24,830	20,909	20,049	24,673	25,317	25,032	(1.1%)
Total SA exports (goods and services)	R millions nominal terms	503,403	663,182	782,664	812,402	919,811	1,005,739	1,027,656	1,116,175	1,183,771	1,248,556	1,297,076	3.9%
Primary mineral exports as % of total SA exports	%	34.9%	33.9%	36.1%	33.1%	30.4%	26.8%	25.9%	26.4%	27.7%	26.8%	27.9%	-
EMPLOYMENT													
Mining industry direct employment	Numbers	491,794	498,907	512,874	524,869	509,909	492,931	480,205	458,291	463,901	456,438	460,015	0.8%
Total South Africa formal non-agricultural employment	Numbers	8,262,314	8,327,768	8,656,951	8,906,362	9,064,960	9,258,630	9,399,279	9,711,074	9,853,734	10,107,030	10,220,218	1.1%
Mining as % of total non-agricultural formal employment	%	6.0%	6.0%	5.9%	5.9%	5.6%	5.3%	5.1%	4.7%	4.7%	4.5%	4.5%	-
Remuneration paid to employees in mining	R millions current	66,092	74,319	86,972	93,630	100,753	102,146	114,085	120,515	128,558	134,454	143,539	6.8%
Average annual remuneration per mineworker	Rand	134,389	148,963	169,578	178,388	197,590	207,223	237,576	262,966	277,123	294,572	312,033	5.9%

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

Key mineral industry statistics for South Africa: 2009-2019 continued

Description	Units of measure	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Year-on-year % change
EXCHANGE RATES													
Rand per US\$	R/US\$	8.4	7.3	7.3	8.2	9.7	10.8	12.8	14.7	13.3	13.2	14.4	9.2
Rand per Euro	R/Euro	11.7	9.7	10.1	10.6	12.8	14.4	14.1	16.3	15.0	15.4	16.2	5.1
Rands per British Pound (GBP)	R/GBP	13.1	11.3	11.6	13.0	15.1	17.9	19.5	20.0	17.2	17.6	18.4	4.6
COMMODITY PRICES													
Coal	US\$/tonne	65	92	116	93	80	72	57	64	85	98	72	(26.3)
Iron ore	US\$/dmtu*	80	146	168	128	135	97	56	58	72	70	94	34.6
Gold	US\$/oz	973	1,225	1,569	1,670	1,411	1,266	1,161	1,249	1,258	1,269	1,392	9.7
Platinum	US\$/oz	1,203	1,610	1,719	1,551	1,487	1,384	1,053	987	948	880	863	(1.9)
Palladium	US\$/oz	429	721	950	738	773	814	697	617	875	1,037	1,548	49.3
Rhodium	US\$/oz	1,366	2,118	1,739	1,210	1,045	1,169	956	694	1,107	2,219	3,908	76.1
Copper	US\$/mt	5,150	7,535	8,828	7,962	7,332	6,863	5,510	4,868	6,170	6,530	6,010	(8.0)
Nickel	US\$/mt	14,655	21,809	22,910	17,548	15,032	16,893	11,863	9,595	10,410	13,114	13,914	6.1
Zinc	US\$/mt	1,655	2,161	2,194	1,950	1,910	2,161	1,932	2,090	2,891	2,922	2,550	(12.7)

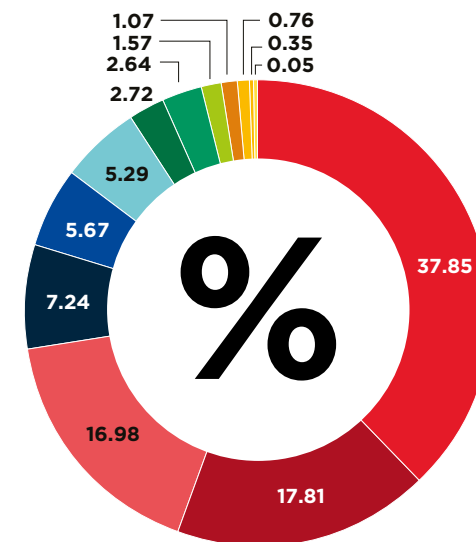
Minerals Council South Africa, DMRE, World Bank, SARS Customs, SARB, Statistics South Africa

* dmtu: dry metric tonne unit



Mining sector expenditure 2019

Expenditure item	R million
Purchases	305,132
Salaries and wages	143,539
Other expenditure	136,899
PPE (includes computer IT and software)	58,344
Depreciation	45,710
Losses on assets	42,631
Rental on land and buildings	21,905
Interest paid	21,313
Buildings, improvements and construction works	12,695
Royalties paid	8,612
Rental on plant and machinery	6,135
Vehicles	2,826
Purchases of land, existing buildings and works	363
Total	80,6104



OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

Mining sector royalties by commodity

	2015/16	2016/17	2017/18	2018/19
Commodity	R million	R million	R million	R million
Coal	702	1,097	1,637	2,059
Copper	-	-	-	-
Diamond	93	250	353	362
Gold and uranium	608	930	590	288
Industrial minerals	155	70	99	233
Iron ore	643	1,629	2,167	2,078
Manganese	185	105	665	802
Platinum	720	804	851	1127
Zinc	5	8	13	3
Other	597	909	1,243	1,659
Total	3,708	5,802	7,617	8,612

Source: South African Revenue Service



South Africa's contribution to world mineral reserves: 2019

Commodity	Unit	South Africa's reserves	World	Locality of major reserves			
				Rank	%	1st	2nd
Chromium	Mt	230,000	1	40.4	South Africa	Kazakhstan	India
Coal	Mt	53,156	8	3.5	USA	Russia	China
Copper	kt	11,000	11	1.6	Chile	USA	Australia, Peru
Fluorspar (Contained CaF)	kt	41,000	3	13.2	Mexico	China	Mongolia
Gold (Metal)	t	3,200	3	11.8	Australia	Russia	USA
Iron ore	Mt	690	10	0.9	Australia	Brazil	Russia
Lead (Metal)	kt	300	6	0.3	Australia	China	Russia
Manganese (Metal)	Mt	260	1	32.0	Australia	Ukraine	USA
Nickel	Mt	3,700	n/a	4.2	Indonesia	Australia	Brazil
Platinum Group Metals	t	63,000	1	95.5	Russia	Zimbabwe	USA
Phosphate rock (Contained concentrates)	kt	1,400 000	n/a	2.0	Morocco and Western Sahara	Syria	Saudi Arabia
Titanium minerals (Metals)	Mt	35	5	4.5	Australia	China	India
Uranium (Metal, up to \$US 80/kg U)	t	279,100	6	5.2	Australia	Kazakhstan	Canada
Vanadium (Metal)	kt	3,500	4	15.9	China	Russia	Australia
Vermiculite	kt	14,000	1	n/a	USA	Brazil	India
Zinc (Metal)	kt	14,000	n/a	n/a	Australia	China	Mexico, Russia
Zirconium minerals (Metals)	kt	6,500	3	10.4	Australia	Mozambique	USA, China

Source: Department of Mineral Resources and Energy, US Geological Survey

n/a = not available

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

MINING'S CONTRIBUTION TO SOUTH AFRICA – PROVINCIAL OVERVIEW

At provincial level, mining plays a big role offering not only employment but also supporting the respective provincial economies. Mining contributes more than 20% to the economies of the Limpopo, Mpumalanga, North West, and the Northern Cape provinces.

In the communities where mining companies operate, they have built schools, clinics, and other social infrastructure such as roads and housing for employees, thus improving the quality of life of the communities and their members. Mining companies have also directly and indirectly supported recreational activities.



Mining sector contribution to provincial economies (GDP, basic prices)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Eastern Cape	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.1%	0.2%	0.2%	0.2%
Free State	10.8%	10.5%	11.0%	10.7%	10.5%	10.6%	10.5%	8.5%	8.7%	9.1%	8.3%	8.7%
Gauteng	2.4%	2.4%	2.5%	2.5%	2.5%	2.4%	2.2%	2.0%	2.1%	2.1%	1.8%	1.8%
KwaZulu-Natal	1.5%	1.4%	1.5%	1.4%	1.4%	1.4%	1.4%	1.2%	1.3%	1.3%	1.3%	1.3%
Limpopo	27.6%	26.0%	26.5%	28.7%	28.3%	28.3%	27.9%	26.8%	28.4%	28.1%	28.5%	30.3%
Mpumalanga	19.1%	18.5%	19.1%	20.6%	21.5%	20.1%	18.9%	17.9%	18.2%	18.1%	18.5%	19.5%
North West	30.8%	30.2%	31.2%	33.3%	30.0%	33.0%	32.8%	32.0%	32.8%	32.0%	32.7%	34.1%
Northern Cape	23.3%	24.0%	24.6%	24.0%	24.0%	25.3%	22.8%	20.1%	20.6%	21.9%	22.5%	24.1%
Western Cape	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
South Africa	6.9%	6.9%	7.1%	7.5%	7.3%	7.4%	7.2%	6.7%	7.0%	6.9%	6.9%	7.3%

Source: Quantec

Provincial overview: 2019

	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	North West	Northern Cape	Western Cape
Mining sector contribution to provincial economies in 2019 (GDP value added)	0.2%	8.7%	1.8%	1.3%	30.3%	19.5%	34.1%	24.1%	0.2%
Compensation of employees (R million)	236	15,735	20,844	3,927	41,300	25,379	45,734	9,471	776
Gross fixed capital formation (R million)	61,141	48,019	296,294	150,409	71,624	81,675	65,092	21,343	113,282
Total mining employment	1,405	35,789	53,895	11,291	74,454	100,083	137,210	38,411	3,906
Population	6,712,276	2,887,465	15,176,116	11,289,086	5,982,584	4,592,187	4,027,160	1,263,875	6,844,272

Source: Statistics South Africa

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

Employment per commodity: 2019

	Gold	PGM	Diamonds	Chrome	Iron ore	Manganese	Non-ferrous metals	Coal	Industrial minerals	Other minerals	Total
2009	159,926	184,162	11,601	10,966	13,728	5,003	-	70,791	13,254	22,363	491,794
2010	157,019	181,969	11,467	13,982	18,216	5,879	-	74,025	13,118	23,231	498,907
2011	144,799	194,745	12,047	16,911	22,360	7,460	-	78,580	13,013	22,961	512,874
2012	142,200	197,752	12,332	19,762	23,380	8,685	-	83,244	13,795	23,719	524,869
2013	131,738	191,260	13,579	18,358	21,127	9,842	15,539	88,039	13,623	6,805	509,909
2014	119,007	186,864	15,356	18,658	21,794	9,971	15,816	86,106	13,031	6,330	492,931
2015	115,029	186,465	18,313	18,450	20,554	8,639	16,414	77,747	12,866	5,727	480,205
2016	116,572	172,556	18,789	15,449	16,651	7,242	14,754	77,259	13,222	5,797	458,291
2017	112,901	172,760	18,038	16,968	17,510	7,780	16,325	82,372	13,029	6,219	463,901
2018	100,189	167,041	16,361	18,935	18,613	9,352	17,466	89,647	12,712	6,121	456,438
2019	92,916	168,102	15,252	20,901	19,769	11,143	19,593	94,297	12,195	5,847	460,015

Source: Department of Mineral Resources and Energy

Employee earnings per commodity: 2019

	Gold	PGM	Diamonds	Chrome	Iron ore	Manganese	Non-ferrous metals	Coal	Industrial minerals	Other minerals	Total
2009	17,371	24,879	1,790	1,457	2,178	737	-	12,815	1,210	3,654	66,092
2010	19,878	26,688	1,956	2,082	3,037	946	-	14,186	1,326	4,217	74,319
2011	20,841	30,482	2,141	2,755	6,507	1,278	-	16,069	1,402	5,499	86,972
2012	22,238	34,393	2,408	3,434	4,691	1,565	-	17,446	1,598	5,857	93,630
2013	23,930	37,710	2,871	3,841	4,848	1,947	3,590	18,949	1,680	1,387	100,753
2014	23,383	35,652	3,663	4,047	5,692	2,302	3,691	20,595	1,810	1,311	102,515
2015	24,578	44,955	4,678	4,417	6,219	2,199	3,947	19,932	1,924	1,235	114,085
2016	28,761	45,926	5,073	4,214	5,895	2,118	4,042	21,112	2,074	1,301	120,515
2017	30,168	49,484	5,430	4,734	5,826	2,391	4,440	22,442	2,129	-	128,558
2018	27,677	51,412	5,198	5,518	6,641	3,002	5,289	25,924	2,201	1,592	134,454
2019	25,859	55,976	4,945	6,383	7,025	3,861	6,601	28,991	2,208	1,691	143,539

Source: Department of Mineral Resources and Energy

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

Employment by gender: 2019

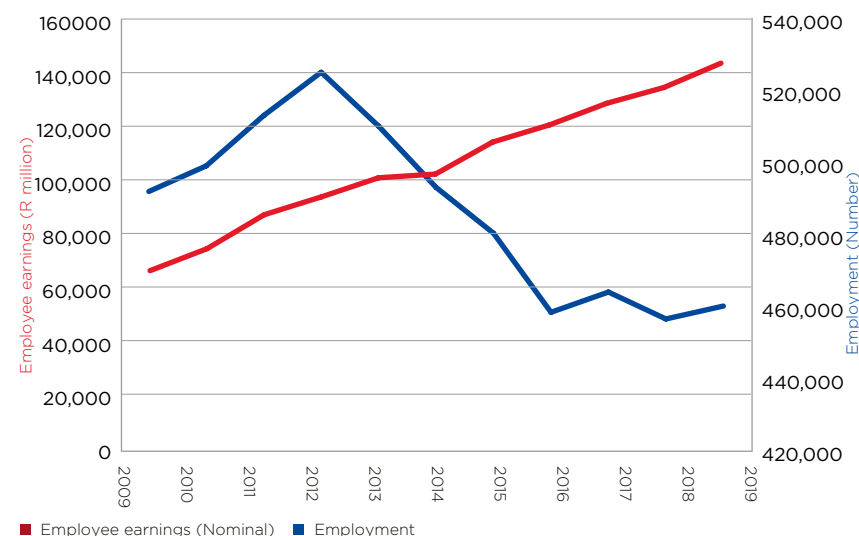
	Male	Female	Total
2009	457,361	34,433	491,794
2010	459,033	39,874	498,907
2011	468,591	44,283	512,874
2012	476,469	48,399	524,869
2013	459,750	50,159	509,909
2014	440,547	52,384	492,931
2015	426,332	53,873	480,205
2016	404,664	53,627	458,291
2017	407,320	56,581	463,901
2018	398,364	58,073	456,438
2019	398,657	61,358	460,015

Source: Department of Mineral Resources and Energy

Employee earnings and employment

	Employment	Employee earnings (Nominal)
2009	491,794	66,092
2010	498,907	74,319
2011	512,874	86,972
2012	524,869	93,630
2013	509,909	100,753
2014	492,931	102,146
2015	480,205	114,085
2016	458,291	120,515
2017	463,901	128,558
2018	456,438	134,454
2019	460,015	143,539

Source: Department of Mineral Resources and Energy



OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED



SAFETY PERFORMANCE

The industry recorded a significantly improved safety performance in 2019, the lowest recorded in the history of mining in South Africa. Tragically 51 people lost their lives in mining-related accidents in 2019, compared with the 81 deaths recorded in 2018. The last quarter of 2019 was fairly challenging given the increase in the number of accidents that occurred. Fall of ground and transportation related incidents were a concern in 2019 as a significant cause of fatalities. This resulted in an increased focus on safety by all stakeholders.

ZERO HARM

As part of the annual Minerals Council National Day of Safety and Health in Mining, the Minerals Council and its member companies launched the Khumbul'ekhaya safety and health strategy.

Khumbul'ekhaya is a Nguni word meaning 'remember home'. The emphasis on home acknowledges that fatalities have the greatest impact on loved ones at home and encourages mine employees and managers to bear these loved ones in mind while embarking on their daily tasks. The Khumbul'ekhaya strategy was developed by the CEO Zero Harm Forum to drive and sustain the mining industry's pursuit of Zero Harm.



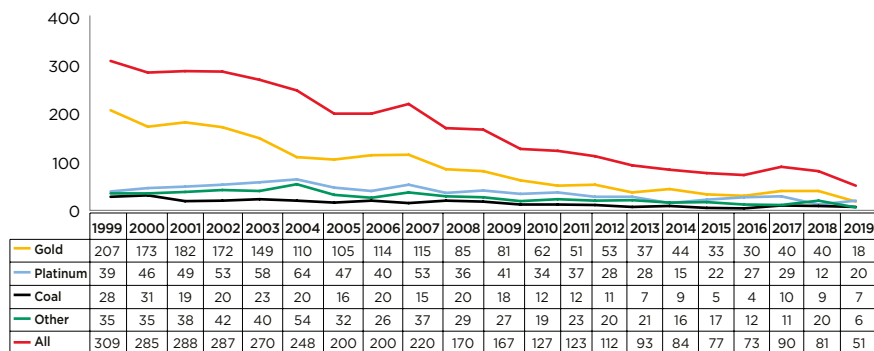
Fatalities

Commodity	2018	2019	% change
Gold	40	18	(55)
Platinum	12	20	67
Coal	9	7	(22)
Other*	20	6	(70)
Total	81	51	(37)

Source: Department of Mineral Resources and Energy

* Other includes diamonds, chrome, copper, iron ore and all others not specified

Mining fatalities per commodity: 1999-2019

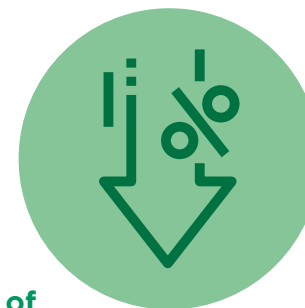


Source: Department of Mineral Resources and Energy

Overall reduction of

37%

in the total number of fatalities recorded in 2019



OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

There was an overall reduction of 37% in the total number of fatalities recorded in 2019 compared to 2018. Commodities classified under “Other” had a commendable decrease of 70% in the number of fatalities followed by the gold sector with 55%. The PGMs sector experienced a significant regression of 67%. The primary causes of fatalities were fall of ground, transport and mining, and general accidents, which include slips and falls.

Causes of fatalities

Commodity	2018	2019	% change
Fall of ground	22	20	(9)
Transport and mining	16	18	13
General*	16	5	(69)
Machinery	3	1	(67)
Other**	24	7	(71)
Total	81	51	(37)

Source: Department of Mineral Resources and Energy

* General includes struck, falling, drowning, inundation, mud rush, burning and scalding

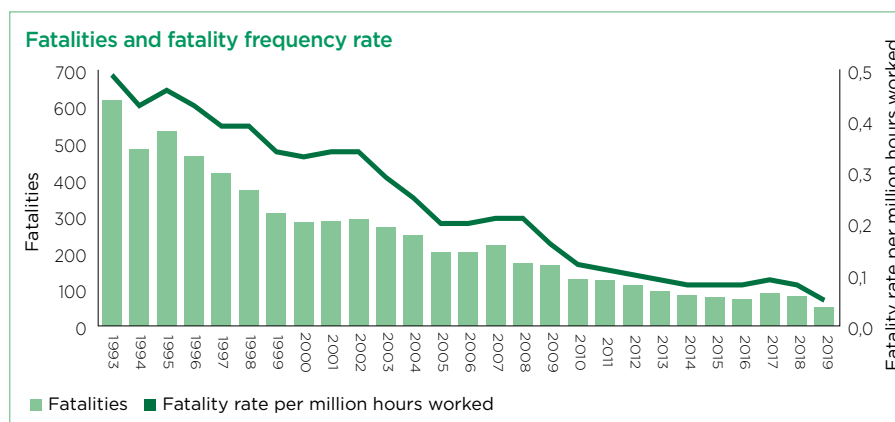
** Other includes electricity, fires, explosives, heat exhaustion and miscellaneous

Injuries per commodity (2018 – 2019)

Commodity	2018	2019	% change
Gold	905	732	(19)
Platinum	1,049	1,151	10
Coal	169	224	33
Other*	324	299	(8)
Total	2,447	2,406	(2)

Source: Department of Mineral Resources and Energy

* Other includes diamonds, chrome, copper, iron ore and all others not specified



Source: Department of Mineral Resources and Energy



In 2019, there was a 2% reduction in the number of injuries, most of which were as a result of accidents categorised as fall of ground, transport and mining, and general accidents.



OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED



HEALTH PERFORMANCE

The industry continues to support and implement measures to meet the 2024 occupational health and safety milestones set in 2014 through the MHSC. Since 2016, the Minerals Council has had an electronic health reporting system in place that collects data on the milestones. The health reporting system is available to all companies, including to non-members. Out of 92 companies registered, 31 companies consistently uploaded operations data.

These 31 companies account for 81% of industry employees and the number is thus very representative.



Village Main Reef – Kopanang

As there is a lag in the reporting of health-related performance, the statistics presented are the latest available data.

1 Respirable crystalline silica quartz (RCS) milestone: The RCS 2024 milestone target is a 95% reduction to a limit of 0.05 mg/m³. There was a deterioration in performance in meeting this milestone target, with 9.1% to 12% of exposures being over the limit in 2017 and 2018, respectively. While the RCS performance by Minerals Council members in 2018 was well within the set aspirational target of 12%, the industry regressed when comparing 2017's exposure data with 2018's exposure. Most gold companies were not on track to meet the milestone, while most companies in coal, platinum and other commodities were on track.

2 Milestone on pneumoconiosis: Since 2013, the milestone on pneumoconiosis stipulates that there should be no new cases of silicosis or coal worker's pneumoconiosis in employees who join the industry as novices in 2009. No cases of pneumoconiosis in novices have been reported on the Minerals Council Reporting System. The Department of Mineral Resources and Energy (DMRE) however reported in March 2019 that three cases of pneumoconiosis in novices had been diagnosed in the industry.

3 Coal dust milestone: Meeting the coal dust milestone also showed a deteriorating performance, from 9% in 2017 to 12% in 2018, both of which are off the target to reach the milestone in 2024. The aspirational target in 2018 for coal dust was 6%.

4 Noise induced hearing loss (NIHL) milestone (on machinery): The industry is obliged to eliminate all machinery emitting more than 107dB(A) by 2024. Much progress has been made, with a 46% decrease, from 2015 to 2018, in the number of machines emitting more than 107dB(A).

5 Milestone on NIHL (standard threshold shift (STS)): The industry committed to the target that, as of 2018, there should be no one with an STS shift that exceeds 25dB from the baseline. Although, a number of people with an STS shift of more than 25dB were diagnosed in 2018, all were proved not to meet the criteria for diagnosis.

6 HIV counselling: The industry, through the Masoyise Health Programme, committed to offer HIV counselling and testing to 100% of employees on an annual basis. The total number of employees counselled is influenced by those who are on existing antiretroviral (ARV) therapy, and who do not necessarily receive counselling. If these employees are excluded, the percentage of employees counselled for HIV is 84%, however, including these employees increases the total to 92.9%.

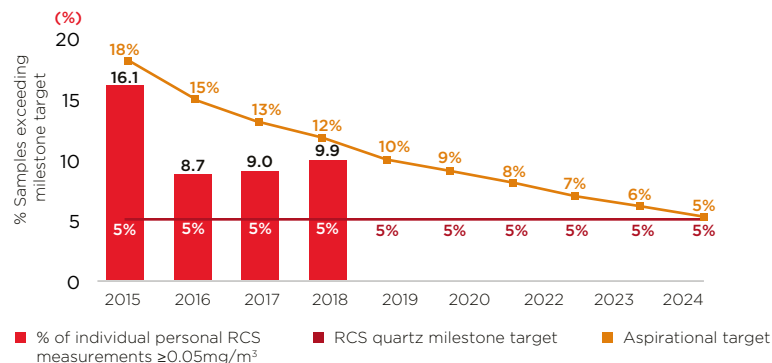
7 TB screening: The Masoyise Health Programme committed to screen 100% of employees every year. From 2016 to 2018 the number of screenings has stayed constant at around 90%.

8 TB incidence rate: The industry target is that, by 2024, the TB incidence in the mining industry should be at or below the South African national TB rate. The total number of TB cases diagnosed has been reducing dramatically, with 1,716 cases diagnosed in 2018, 24% lower year-on-year. In 2018 the TB incidence rate measured 415/100,000, down from 548/100,000 in 2017. The South African national rate was 567 for every 100,000 in 2017.

OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

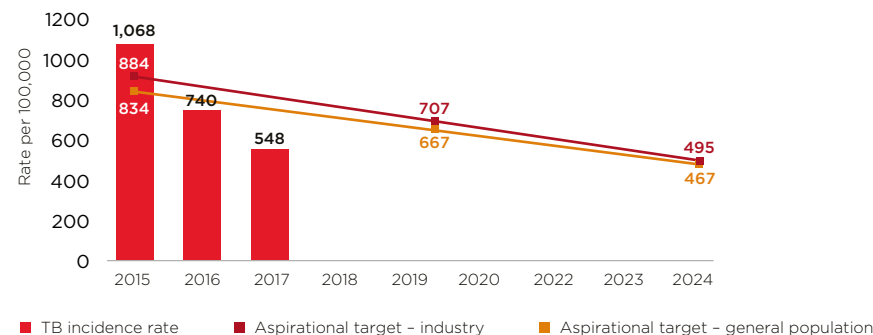
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Progress towards respirable crystalline silica milestone: 2015-2018



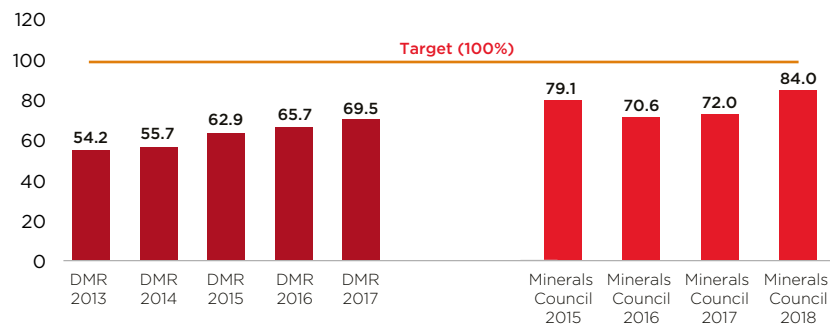
Source: Department of Mineral Resources and Energy

TB incidence aspirational targets (industry and general population)



Source: Department of Health

Percentage of employees counselled for HIV (%)



Source: Department of Mineral Resources and Energy, Minerals Council South Africa

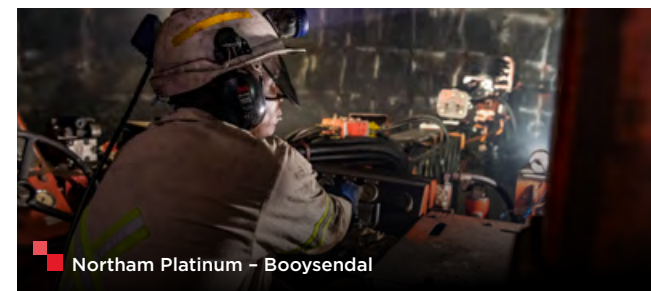
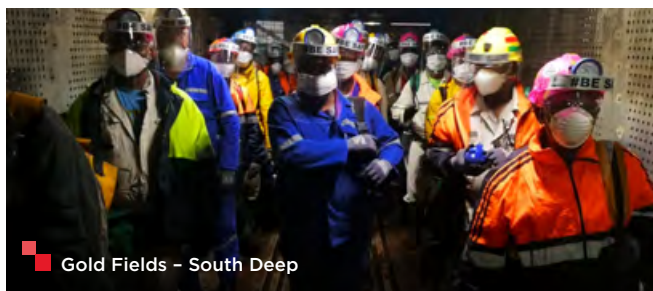


MINERALS COUNCIL
SOUTH AFRICA



Khumbul'ekhaya

The Khumbul'ekhaya health and safety strategy continues in 2020 with great intensity, with many of its interventions re-purposed to deal with the COVID-19 pandemic as a priority, while still being aligned to their original intentions. The response to COVID-19 falls within the scope of the Khumbul'ekhaya strategy through the zero harm aspiration and 2020 priority to eliminate fatalities through prevention of infections and deaths of those infected.



OVERVIEW OF THE SOUTH AFRICAN MINING INDUSTRY

CONTINUED

THE RELEVANCE OF CONTRACTORS IN SOUTH AFRICA'S MINING SECTOR

In South Africa, contract mining has provided mining companies with some advantages in terms of managing risks such as workforce availability, occupational health and safety and environmental incidents.

Contractors and remunerations: 2019

	Remuneration (R'000)		Employment	
	Contractors	As % of industry	Contractors	As % of industry
Gold	2,915,822	11%	13,450	14%
PGMs	10,551,105	19%	48,566	29%
Diamonds	1,653,082	33%	5,900	39%
Chrome	1,073,131	17%	10,566	35%
Iron ore	1,456,017	21%	6,489	53%
Manganese	1,316,124	34%	6,489	58%
Coal	7,655,914	26%	55,208	59%
TOTAL	29,019,657	20%	163,999	36%



The managed risks mentioned are mostly with regards to the separation of funding risk from just one party. The key advantages include:



Savings costs for the mineral right holders

By using contractors, mining companies have access to additional capital equipment and human resources. The table on contractors indicates that in all industries in the sector, the share of contractor employees is higher than the percentage share of total remuneration paid to contractors, an indication that contractor employees, on average, come at a discount compared to employees of the right holder. For example, in the gold industry, contractor employees consist 14% of total industry employment, and yet they receive only 11% of the total remuneration. The disparity is more pronounced in the chrome ore, iron ore, manganese and coal industries.



Higher production rates – optimised mining, plant and equipment utilisation rates with high labour productivity

Minimisation of the owner's capital exposure allows the company to better utilise its capital. The production rates in ore mining and waste stripping operations are higher for contract miners than those achieved under owner mining. In 2015 the Southern African Institute of Mining and Metallurgy (SAIMM) reported, for example, that jumbo drill advance rates in owner-operated mines were in the order of 60–100 metres/month while contracting crews were operating jumbo drill rigs underground at advance rates of 200–300 metres/month.



A shortage of capital can justify contract mining, as the contractors' operating cost/rate is inclusive of the capital cost of the contract

Owner mines pay for the use of the contractor's capital equipment in a 'pay as you go' manner. This is especially relevant for junior and emerging miners who usually do not have sufficient capital to operate all parts of the mining process. An added advantage is that as contracting companies purchase equipment on a regular basis, they are usually able to secure better commercial terms for equipment.




Contractors assist the mining right holders to specialise

By contracting out one or more mining activities, the mining companies can specialise on their core business. Therefore, the benefits associated with contractor involvement in mining are immense, and in virtually all cases it involves the mining right holder not having the necessary expertise to develop a mine and/or to carry out all or parts of the mining process.

OUR COMMODITIES: METALS AND MINERALS



 Seriti - Kriel

2019 KEY FEATURES



R141 billion

Total sales



94,297

Direct employees



R29.9 billion

Employee earnings

Coal sales totalled approximately R141 billion in 2019 a decline from R145.9 billion the previous year.

OUR METALS AND MINERALS – COAL CONTINUED

Coal sales totalled approximately R141 billion in 2019 a decline from R145.9 billion the previous year. This is despite an increase in total sales volume from 251 million tonnes in 2018 to 265 million tonnes in 2019. Prices were subdued in 2019 compared to the previous year.

South Africa derives over 70% of its energy requirement (electricity and liquid fuels) from coal.

In 2019, the coal industry employed 94,297 people, representing about 20% of total employment in the mining sector.



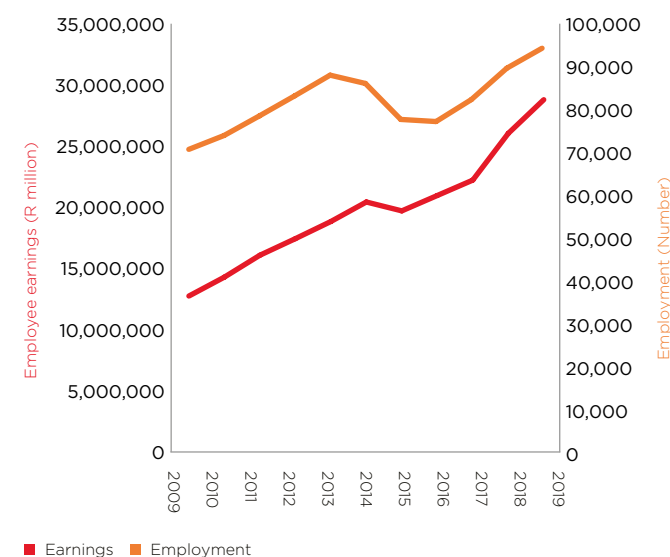
South African coal production and sales

	Production	Local sales		Export sales		Total sales	
	Tonnes '000	Tonnes '000	R'000	Tonnes '000	R'000	Tonnes '000	R'000
2009	250,538	184,677	34,442,650	60,539	31,006,559	245,216	65,449,209
2010	257,206	186,366	33,702,229	66,770	37,477 184	253,136	71,179,413
2011	250,706	177,889	37,253,525	68,807	50,548,678	246,697	87,802,202
2012	259,012	185,548	44,091,664	76,009	52,226,904	261,556	96,318,568
2013	256,563	183,950	49,603,015	74,566	51,813,484	258,516	101,416,499
2014	261,949	184,416	55,255,702	75,823	51,452,471	260,239	106,708,172
2015	252,176	179,135	56,574,200	75,376	47,543,139	254,511	104,117,339
2016	250,653	183,213	61,962,133	69,140	50,579,004	252,353	112,541,137
2017	252,348	181,347	69,105,623	70,049	61,277,987	251,396	130,383,610
2018	253,385	175,520	70,850,316	75,055	76,123,029	251,643	145,905,188
2019	258,496	194,842	86,046,649	55,345	70,202,257	265,044	141,391,646

Source: Department of Mineral Resources and Energy

Coal sector employment and earnings


	Employment	Earnings (R'000)
2009	70,791	12,815,351
2010	74,025	14,186,482
2011	78,580	16,068,639
2012	83,244	17,445,779
2013	88,039	18,949,314
2014	86,106	20,594,652
2015	77,747	19,932,153
2016	77,259	21,111,665
2017	82,372	22,441,979
2018	89,647	25,924,331
2019	94,297	28,990,946



Source: Department of Mineral Resources and Energy

OUR COMMODITIES: METALS AND MINERALS



 Implats – Impala Platinum

2019 KEY FEATURES



R136 billion

Total sales



168,102

Direct employees



R55.9 billion

Employee earnings

Total nominal sales in the PGMs industry amounted to R136 billion in 2019, up from the R104 billion in 2018, representing a 30.7% increase.

OUR COMMODITIES: METALS AND MINERALS – PGMS CONTINUED

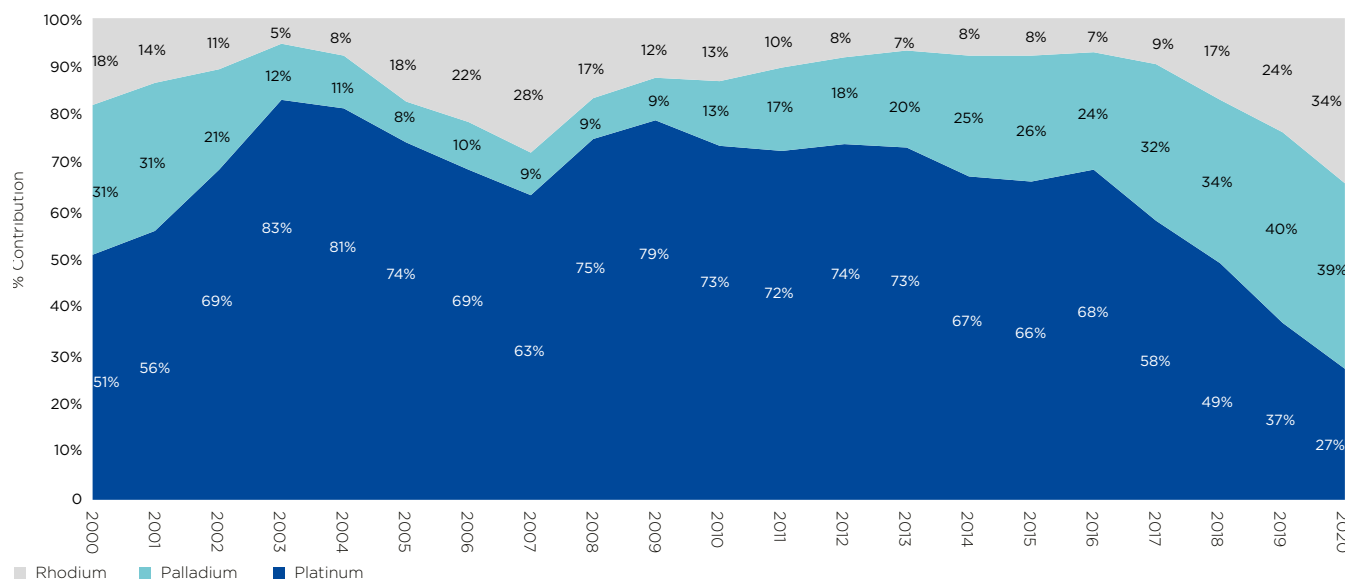
The PGM basket price was predominately driven by strong palladium and rhodium prices. In US\$ terms, palladium prices increased by 49.3% and rhodium prices by 76.1% between 2018 and 2019. Platinum prices remained under pressure and decreased by 1.7% over the same period.

The continued increases in palladium and rhodium prices coupled with subdued platinum prices has resulted in a significant shift in the income split for PGM producers as indicated in the graph alongside. In 2019, rhodium and palladium collectively contributed 64% to the PGM producer earnings. Even in 2020, we see that the continued strong prices in these commodities has resulted in their collective contribution of 73% to the PGM producer earnings. This is a notable shift considering the fact that a decade ago (2009) platinum alone contributed 79% to PGM producer earnings, while rhodium and palladium collectively contributed 21%.

In 2019, the PGMs industry employed 168,102 people, representing a 0.63% increase in employment on 2018. Employee earnings totalled R55.9 billion in 2019.

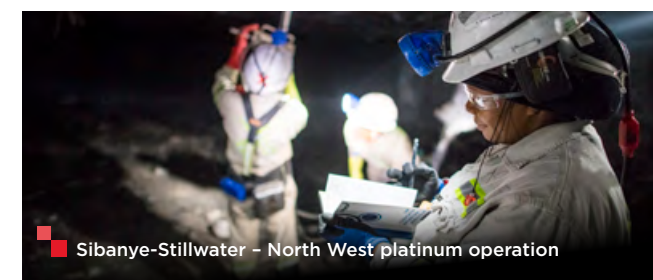
An increase in the adoption of fuel cell technology, influenced by the pressure to reduce carbon footprints, is expected to support PGM demand. The introduction of stricter emission standards for motor vehicles is also expected to contribute to PGM demand (platinum, palladium and rhodium) which are used in the making of catalytic converters.

PGM income split (Rand basket)



Source: Department of Mineral Resources and Energy, Minerals Council South Africa, South African Reserve Bank

Other uses of PGMs are in catalysts for bulk-chemical production and petroleum refining; in computer hard disks; hybridised integrated circuits; multilayer ceramic capacitors; glass manufacturing; jewellery and in laboratory equipment. Platinum is used in the medical sector while platinum and palladium, along with gold-silver-copper-zinc alloys, are used as dental restorative materials. PGMs (platinum and palladium) are also used for investment purposes in exchange traded funds (ETFs).



Sibanye-Stillwater – North West platinum operation

OUR COMMODITIES: METALS AND MINERALS – PGMS CONTINUED

South African PGM production and sales

	Production	Local sales		Export sales		Total sales	
	Tonnes	Tonnes	R'000	Tonnes	R'000	Tonnes	R'000
2009	271	–	4,322,869	251	53,459,307	–	57,782,176
2010	287	–	7,892,570	244	65,894,341	–	73,786,910
2011	289	–	10,619,219	244	73,234,047	–	83,853,266
2012	254	–	8,285,235	211	60,918,939	–	69,204,174
2013	264	28	8,886,103	239	75,348,535	266	84,234,637
2014	188	28	10,644,402	202	66,860,760	230	77,505,163
2015	276	32	11,149,886	254	82,988,098	286	94,137,984
2016	264	31	11,093,840	250	85,318,461	282	96,412,301
2017	262	32	11,966,660	251	85,069,237	283	97,035,896
2018	271	24	10,668,195	244	94,228,661	268	104,896,855
2019	268	16	11,441,132	227	124,585,015	243	136,026,147

Source: Department of Mineral Resources and Energy



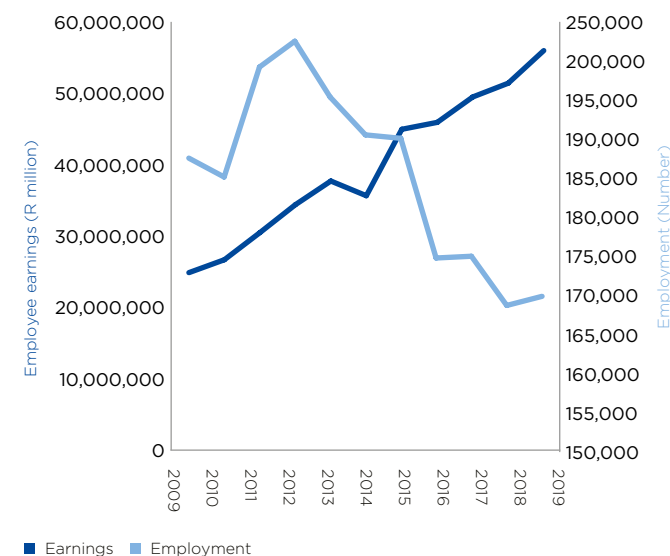
Wesizwe – Bakubung Platinum Mine



Bauba Platinum – Moeijelijk Chrome Mine

PGM sector employment and earnings

	Employment	Earnings (R'000)
2009	184,162	24,879,139
2010	181,969	26,688,348
2011	194,745	30,481,697
2012	197,752	34,393,197
2013	191,260	37,710,446
2014	186,864	35,652,303
2015	186,465	44,955,363
2016	172,556	45,926,200
2017	172,760	49,484,308
2018	167,041	51,412,285
2019	168,102	55,976,352



Source: Department of Mineral Resources and Energy

OUR COMMODITIES: METALS AND MINERALS



Harmony – Mponeng

2019 KEY FEATURES



R76 billion

Total sales



92,916

Direct employees



R25.9 billion

Employee earnings

South Africa was responsible for 3.2% of global gold production in 2019.

OUR COMMODITIES: METALS AND MINERALS – GOLD CONTINUED

And while the country has the deepest gold mines in the world it has the third largest gold reserves (6,000 tonnes) after Australia (9,500 tonnes) and Russia (8,000 tonnes).

While the number of people employed in the sector has been on the decline since 2007, total employee earnings have soared from R15.9 billion in 2008 to R25.9 billion in 2019.



South African gold production and sales

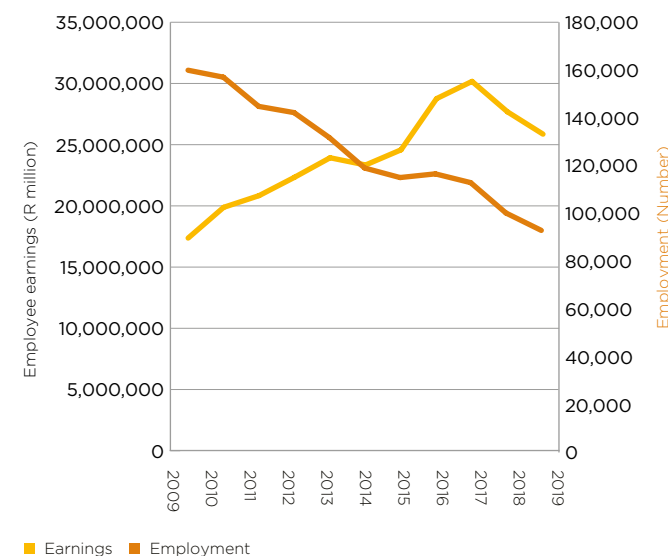
	Production	Local sales		Export sales		Total sales		World production	SA share
	Tonnes	Tonnes	R'000	Tonnes	R'000	Tonnes	R'000	Tonnes	%
2009	198	7	1,701,334	181	46,994,169	187	48,695,503	2,612,0	7.6
2010	189	7	2,055,698	177	51,037,449	184	53,093,147	2,793,6	6.8
2011	180	10	3,633,111	176	65,258,302	186	68,891,413	2,880,8	6.3
2012	155	11	4,862,748	165	71,961,757	176	76,824,504	2,959,1	5.2
2013	160	10	4,192,863	151	65,793,912	162	69,986,775	3,118,1	5.1
2014	152	9	3,450,902	136	59,898,125	145	63,349,026	3,202,9	4.7
2015	145	16	7,385,852	118	55,314,075	134	62,699,927	3,289,5	4.4
2016	142	26	15,214,101	122	73,210,641	147	88,424,741	3,397,3	4.2
2017	137	34	17,849,770	120	65,102,402	154	82,952,172	3,441,9	4.0
2018	117	66	35,201,487	64	34,482,019	130	69,683,505	3,502,6	3.3
2019	105	76	48,310,216	42	28,336,141	119	76,646,356	3,260,0	3.2

Source: Department of Mineral Resources and Energy, World Gold Council

Gold sector employment and earnings

	Employment	Earnings (R'000)
2009	159,926	17,371,250
2010	157,019	19,877,668
2011	144,799	20,840,802
2012	142,200	22,238,338
2013	131,738	23,930,042
2014	119,007	23,383,408
2015	115,029	24,578,384
2016	116,572	28,760,523
2017	112,901	30,167,951
2018	100,189	27,676,797
2019	92,916	25,859,433


Source: Department of Mineral Resources and Energy



OUR COMMODITIES: METALS AND MINERALS



IRON ORE

 Kumba Iron Ore – Sishen

2019 KEY FEATURES



R70.6 billion

Total sales



19,769

Direct employees



R7.0 billion

Employee earnings

In 2019, total iron ore Rand sales increased by a notable 37.9%.

OUR COMMODITIES: METALS AND MINERALS – IRON ORE CONTINUED

This is despite a 2.6% decrease in tonnes produced and a 2.3% decrease in tonnes sold between the 2018 and 2019.

The increase in sales is the result of a 34.6% increase in US\$ iron ore prices, coupled with a 9.2% depreciation in the Rand against the US\$ between 2018 and 2019. Production disruptions in Brazil and the generally higher quality of South African iron ore supports strong demand. Export earnings increased by 42.9% between 2018 and 2019 to R65.1 billion.

Employment in the iron ore industry increased by 6.2% to 19,769 in 2019. This is the fourth consecutive year of employment increase in the sector. However, the employment in the industry is still below its 2012 peak of 23,380 people.



Kumba Iron Ore – Saldanha

South African iron ore production and sales

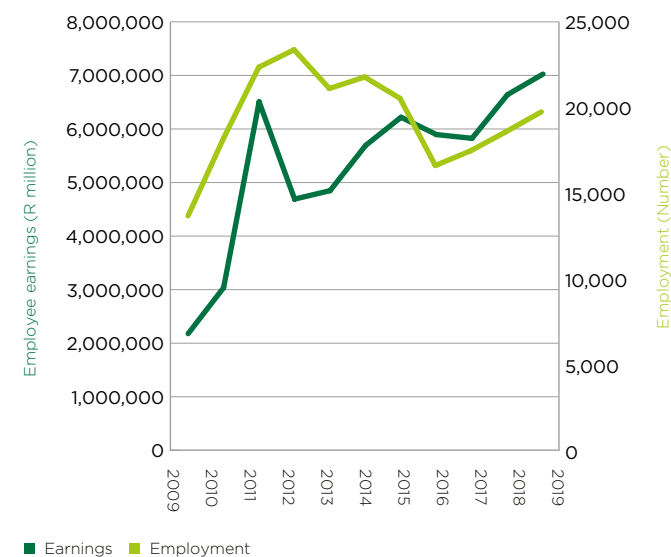
	Production	Local sales		Export sales		Total sales	
	Tonnes	Tonnes	R'000	Tonnes	R'000	Tonnes	R'000
2009	55,313,053	8,369,099	1,888,801	44,550,151	25,242,934	52,919,250	27,131,735
2010	58,709,330	10,560,910	3,270,326	47,492,581	40,148,279	58,053,491	43,418,606
2011	58,056,897	9,844,323	4 207,746	51,890,937	58,444,148	61,735,260	62,651,894
2012	67,100,474	8,392,835	4,448,978	57,109,694	48,193,830	65,502,529	52,642,808
2013	71,644,761	9,295,336	5,776,442	58,180,390	57,360,500	67,475,726	63,136,942
2014	80,741,034	9,571,453	5,741,815	61,944,607	52,944,638	71,516,060	58,686,453
2015	72,805,534	7,512,691	5,071,073	64,175,896	34,394,014	71,688,587	39,465,086
2016	66,450,089	6,160,597	3,855,830	58,392,326	39,240,118	64,552,923	43,095,948
2017	74,789,394	7,177,079	5,187,033	60,678,253	44,188,638	67,855,332	49,375,671
2018	74,272,974	8,024,968	5,732,580	61,715,193	45,529,223	69,740,161	51,261,803
2019	72,406,782	7,548,006	5,630,784	60,582,727	65,040 115	68,130,733	70,670,899

Source: Department of Mineral Resources and Energy

Iron ore sector employment and earnings

	Employment	Earnings (R'000)
2009	13,728	2,178,041
2010	18,216	3,037,418
2011	22,360	6,506,608
2012	23,380	4,690,573
2013	21,127	4,848,253
2014	21,794	5,691,818
2015	20,554	6,218,976
2016	16,651	5,894,901
2017	17,510	5,825,750
2018	18,613	6,641,463
2019	19,769	7,025,067

Source: Department of Mineral Resources and Energy



OUR COMMODITIES: METALS AND MINERALS



MANGANESE

 Tshipi é Ntle Manganese Mining – Tshipi Borwa

2019 KEY FEATURES



R45 billion

Total sales



11,143

Direct employees



R3.9 billion

Employee earnings

South Africa hosts the largest known deposit of manganese and the country is a leading producer of manganese globally.

OUR COMMODITIES: METALS AND MINERALS – MANGANESE CONTINUED

In 2019, the sector produced 17 million tonnes of manganese representing a 14% increase on the prior year.

Manganese prices have been under pressure because of a strong increase in supply coupled with subdued demand out of China which is the core market for South African producers. This resulted in a flat performance in total sales (0.5% in 2019) despite the notable volume increase.

The industry employed 11,143 people in 2019, which is a notable 19.1% increase on the prior year and recorded a fourth consecutive increase in the sector's employment. The employees earned R3.9 billion in 2019.



Tshipi é Ntle Manganese Mining – Tshipi Borwa mine

South African manganese production and sales

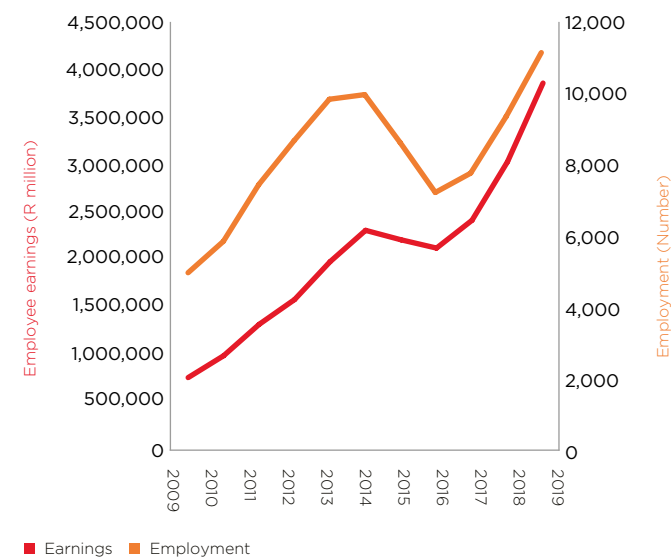
	Production	Local sales		Export sales		Total sales	
	Tonnes	Tonnes	R'000	Tonnes	R'000	Tonnes	R'000
2009	4,578,770	478,318	583,602	4,100,452	5,003,011	4,578,770	5,586,613
2010	7,171,745	888,389	1,320,564	6,283,356	9,340,026	7,171,745	10,660,590
2011	8,651,842	1,158,712	1,325,213	7,493,130	8,569,854	8,651,842	9,895,067
2012	8,943,415	937,962	1,134,842	8,005,453	9,685,812	8,943,415	10,820,654
2013	10,957,133	1,140,248	1,506,434	9,816,885	12,969,545	10,957,133	14,475,979
2014	14,051,244	1,408,581	1,641,633	12,642,663	14,734,415	14,051,244	16,376,049
2015	15,952,416	1,015,415	860,474	14,937,001	12,657,775	15,952,416	13,518,249
2016	11,527,524	523,333	896,947	11,004,191	18,860,231	11,527,524	19,757,177
2017	14,349,888	766,150	1,726,702	13,583,738	30,614,192	14,349,888	32,340,893
2018	14,918,236	355,027	1,066,479	14,563,209	43,746,990	14,918,236	44,813,469
2019	17,002,978	661,442	1,751,826	16,341,536	43,280,475	17,002,978	45,032,300

Source: Department of Mineral Resources and Energy

Manganese sector employment and earnings

	Employment	Earnings (R'000)
2009	5,003	736,842
2010	5,879	946,139
2011	7,460	1,277,636
2012	8,685	1,565,264
2013	9,842	1,946,529
2014	9,971	2,302,129
2015	8,639	2,199,373
2016	7,242	2,118,157
2017	7,780	2,390,916
2018	9,352	3,001,644
2019	11,143	3,860,604

Source: Department of Mineral Resources and Energy



OUR COMMODITIES: METALS AND MINERALS – MANGANESE CONTINUED

In recognition of the significant potential the South African manganese endowment presents, the Minerals Council is in the process of concluding a National Manganese Strategy. Below is an extract from the executive summary of the report:

- South Africa hosts 74% of the global manganese resources and 30.2% of the reserves.
- Between 1990 and 2019, the mining of manganese in South Africa has expanded at the second fastest compound annual growth rate (CAGR) of 4.5%, when compared to other commodities mined in the country. Between 2010 and 2019, the CAGR was 9.6%.
- Although the Chinese developments that caused a spike in the demand for manganese in the last 3 to 5 years (rebar regulations, improving steel sector, emission reduction) have levelled off because of increased supply, global demand for the commodity is expected to remain robust.
- Conversely, ferro-manganese production in South Africa contracted at a CAGR of 1.36% between 1990 and 2019, and 10.1% between 2010 and 2019.
- Considering the constrained nature of South Africa's energy supply, sintered manganese production should be encouraged. It is identified as offering an important intermediate step up to the manganese value chain, thereby allowing the country to compete in the higher-grade manganese market, both in the short and long term.
- The South African manganese sector underscores the fact that comparative advantage (abundant resource) does not automatically translate to competitive advantage (beneficiation). The latter must be systematically created with concerted effort.

- The Northern Cape province is characterised by being endowed with a wide array of commodities (manganese, iron ore, zinc and nickel). This presents the unique opportunity for a portfolio view on the management of the mineral endowment, which will enable the full potential of the region to be unlocked. This also presents the optionality to prioritise minerals throughout the commodity price cycle.
- The energy density from the sun in the Northern Cape presents significant potential for solar energy to be produced in the area. This can be scaled up to produce the energy required for manganese sinter and ferro-manganese beneficiation. However, an efficient electricity wheeling arrangement is paramount for transmitting power to the smelters.

Logistics (rail and port) and water supply in manganese mining, and electricity in the production of sinter and ferro-manganese are identified as the major deterrents to the manganese sector's full potential. At the core, it is identified that the dominance of state institutions in these important network industries causes unsustainable cost increases and inefficiencies. Moreover, investment in capacity (rail, water, port and electricity) has tended to be reactionary and lags developments in the manganese sector, thereby inducing capacity constraints. These key factors are outside the control of manganese producers, thus creating exogenous constraints, which manifest in the form of additional operating costs and adversely affect South African manganese producers' position on the cost curve. Major reform is needed in addressing these interdependencies to unlock potential.

The strategy proposes that unlocking the sector's potential will need to be in the form of a phased sequence given the nature of underlying infrastructural constraints.

It identifies that in the production of ferro-manganese, arresting the rapid decline in production and preserving the existing capacity should be the immediate preoccupation before solutions to grow the industry are considered. A rigid and short-term prioritisation on the growth of ferro-manganese production in the absence of structural reforms to the electricity supply industry (ESI), is unlikely to yield any benefit.

Concurrently, the scope and potential for a carefully managed increase in manganese export sales and higher-grade sinter is possible and should take centre stage in the short term. In doing so, a conscience effort needs to be applied to not oversupply the global market as this would have unintended adverse implications for domestic producers.

Although the benefits of the proposed changes to the ESI and logistics (rail and port) network industries will take time to take effect, the necessary policy reform to achieve these ends should be prioritised in the short term.



Tshipi é Ntle Manganese Mining – Tshipi Borwa mine

OUR COMMODITIES: METALS AND MINERALS

2019 KEY FEATURES



R22 billion

Total sales



20,901

Direct employees



R6.4 billion

Employee earnings

Global chrome reserves are estimated to be in the region of 12 billion tonnes.

CHROME ORE

Bauba Platinum – Moeijelijk

OUR COMMODITIES: METALS AND MINERALS – CHROME ORE CONTINUED

According to the US Geological Survey (2018), South Africa and Kazakhstan host 95% of the world's chromium reserves (shipping grade), at 200,000 tonnes and 230,000 tonnes, respectively. South Africa has 72% of the world's chrome resources.

While domestic sales have been volatile, demand in the export market has soared, from 762,164 tonnes in 2008 to 5.2 million tonnes in 2019. Likewise, employment in the industry has increased from 12,200 in 2008 to 20,901 in 2019. Employees earned R6.4 billion in 2019.



South African chrome ore production and sales

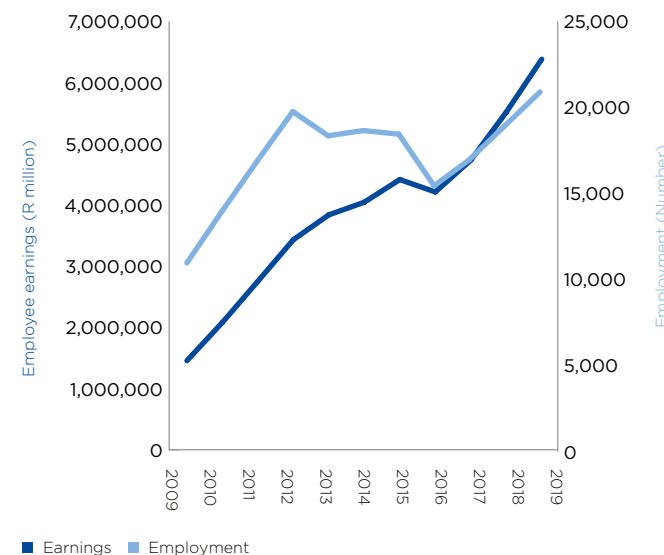
	Production	Local sales		Export sales		Total sales	
	Tonnes '000	Tonnes '000	R'000	Tonnes '000	R'000	Tonnes '000	R'000
2009	7,561	4,880	2,081,058	1,709	1,571,311	6,589	3,652,368
2010	10,871	7,267	4,159,308	1,929	2,459,473	9,196	6,618,781
2011	11,865	7,202	5,227,339	2,152	3,649,136	9,354	8,876,475
2012	11,317	6,683	4,681,855	2,470	3,594,282	9,152	8,276,137
2013	13,690	8,483	5,870,717	4,168	5,891,833	12,651	11,762,549
2014	14,038	10,048	7,771,424	3,695	5,834,876	13,743	13,606,301
2015	15,656	9,833	8,093,409	4,821	8,104,128	14,654	16,197,537
2016	14,708	8,726	8,164,638	4,684	9,541,381	13,410	17,706,019
2017	16,573	8,871	10,832,640	4,717	12,586,563	13,588	23,419,203
2018	17,793	9,907	11,693,137	4,065	10,045,204	13,972	21,738,341
2019	17,656	10,244	11,772,204	5,245	10,453,314	15,490	22,225,518

Source: Department of Mineral Resources and Energy

Chrome sector employment and earnings


	Employment	Earnings (R'000)
2009	10,966	1,457,366
2010	13,982	2,082,481
2011	16,911	2,754,694
2012	19,762	3,434,492
2013	18,358	3,840,559
2014	18,658	4,046,774
2015	18,450	4,416,943
2016	15,449	4,213,906
2017	16,968	4,733,924
2018	18,935	5,518,485
2019	20,901	6,383,221

Source: Department of Mineral Resources and Energy



OUR COMMODITIES: METALS AND MINERALS

INDUSTRIAL MINERALS

 Rio Tinto – Richards Bay Minerals

2019 KEY FEATURES



R17.9 billion

Total sales



12,195

Direct employees



R2.2 billion

Employee earnings

South Africa boasts a substantial industrial mineral endowment.

OUR COMMODITIES: METALS AND MINERALS – INDUSTRIAL MINERALS CONTINUED

This category of minerals generally does not get a lot of attention despite its notable size and potential.

In 2019, industrial mineral sales amounted to R17.9 billion. Domestic sales of the minerals constituted 79% or R14.3 billion, while export sales contributed R3.5 billion or 19.5%.

South African industrial minerals sales

	Local sales	Export sales	Total sales
	R'000	R'000	R'000
2013	12,103,247	2,000,930	14,104,178
2014	13,119,979	2,274,729	15,394,708
2015	13,412,217	3,287,308	16,699,525
2016	14,659,978	2,625,418	17,285,395
2017	14,717,986	2,983,985	17,701,970
2018	14,244,405	3,413,215	17,657,619
2019	14,372,800	3,585,698	17,958,499

Source: Department of Mineral Resources and Energy

A total of 65 mineral types (or varying formations) are included and grouped into eight categories, and collectively termed industrial minerals. The minerals included in this classification are included in the table alongside. The aggregated sales of each of the eight categories as well as the percentage contribution of each category to the broader industrial mineral classification is also included in the table.

Industrial minerals classification and sales

Industrial mineral category	Non metallic other	Limestone and lime	Aggregate and sand	Special clays	Dimension stone	Brickmaking materials	Salt	Building material
Total sales (Rand)	6,420,708,324	3,655,250,390	6,749,392,620	142,605,679	603,292,485	112,638,844	257,310,092	17,300,216
(%) Contribution to total sales	35.8%	20.4%	37.6%	0.8%	3.4%	0.6%	1.4%	0.1%
Commodity	Feldspar	Limestone	Aggregate	Attapulgite	Granite	Clay brickmaking	Salt coarse	Shale for cement
	Feldspar: Lumpy	Limestone: ROM	Aggregate: Base (g1-g)	Bentonite	Granite: Blocks	Shale brickmaking	Salt processed	
	Feldspar: Ground	Limestone: Dolomitic ROM	Aggregate: Sub-base (g4-g)	Fireclay	Granite: Sawn slabs	Building materials other		
	Gypsum	Limestone: Cement	Aggregate: Over 26mm	Flintclay	Granite: Any	Shale for cement		
	Mica	Limestone: Agricultural	Aggregate: Between 13mm to 26mm	Plastic clay	Slate			
	Phosphate concentrate	Limestone: Fluxing	Aggregate: Between 4.75mm to 13mm	Kaolin				
	Pyrophyllite	Limestone: Any	Aggregate: Sand crusher	<p>The industry employed 12,195 people in 2019, who in turn earned R2.2 billion. The industry's employment has remained relatively flat over the last decade.</p>				
	Silica	Lime	Aggregate: Crusher run					
	Silica: Crude	Lime: Quicklime pyrometallurgical	Aggregate: Any					
	Silica: Processed	Lime: Quicklime chemical	Sand natural					
	Sodium sulphate	Lime: Hydrated lime water purification						
	Sulphur	Lime: Hydrated lime chemical						
	Talc	Lime: Hydrated lime any						
	Talc: Crude							
	Vermiculite							

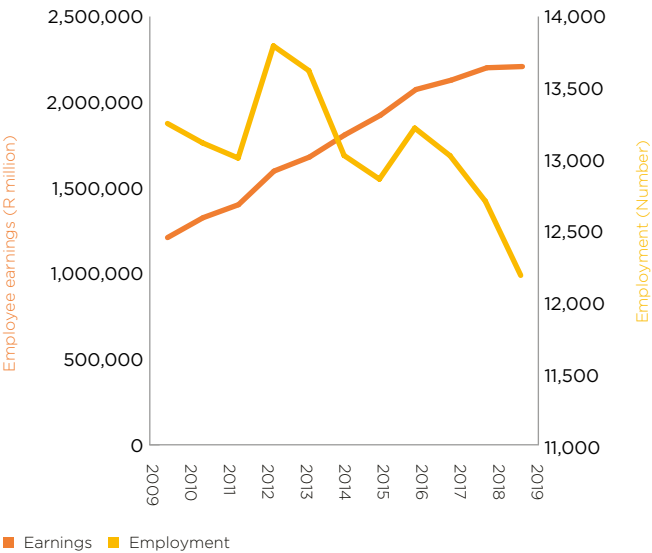
Source: Department of Mineral Resources and Energy

OUR COMMODITIES: METALS AND MINERALS – INDUSTRIAL MINERALS CONTINUED

Industrial minerals sector employment and earnings

	Employment	Earnings (R'000)
2009	13,254	1,209,812
2010	13,118	1,326,489
2011	13,013	1,401,846
2012	13,795	1,597,960
2013	13,623	1,680,160
2014	13,031	1,810,346
2015	12,866	1,923,933
2016	13,222	2,073,622
2017	13,029	2,128,840
2018	12,712	2,200,534
2019	12,195	2,207,838

Source: Department of Mineral Resources and Energy




Rio Tinto – Richards Bay Minerals



OUR COMMODITIES: METALS AND MINERALS



DIAMONDS

 Petra Diamonds – Ekapa Mining JV

2019 KEY FEATURES



R13.2 billion

Total sales



15,252

Direct employees



R4.2 billion

Employee earnings

South Africa ranks among the top 10 diamond producers globally, producing 10% of the world's diamonds.

OUR COMMODITIES: METALS AND MINERALS – DIAMONDS CONTINUED

In 2019 about 7.2 million carats of diamonds were produced locally.

Total employee earnings decreased between 2018 and 2019, from R5.2 billion to R4.9 billion, in line with a decrease in employment from 16,361 people to 15,252, respectively.



South African diamond production and sales

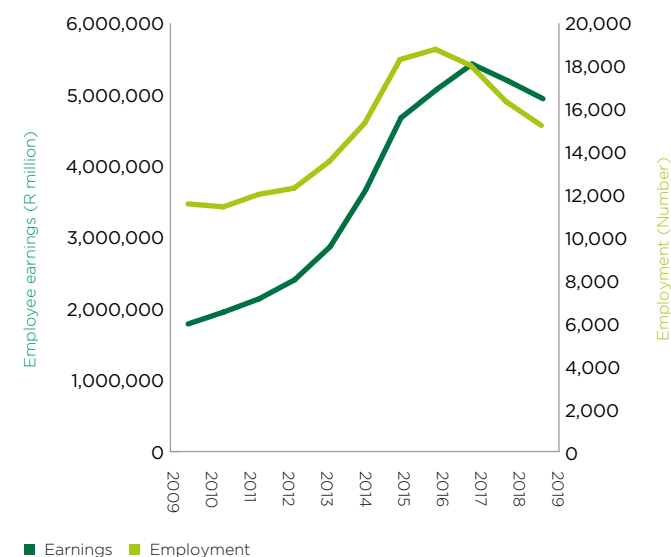
	Production	Local sales		Export sales		Total sales	
	Carats	Carats	R'000	Carats	R'000	Carats	R'000
2009	6,103,189	-	-	-	-	-	-
2010	8,869,532	-	-	-	-	-	-
2011	7,046,277	-	-	-	-	-	-
2012	7,245,402	-	-	-	-	-	-
2013	8,159,531	3,425,339	7,552,445	3,768,082	4,792,191	7,193,421	12,344,635
2014	8,095,037	3,168,609	8,800,678	5,619,831	7,730,529	8,788,440	16,531,206
2015	8,229,657	3,138,546	8,613,267	4,650,483	5,811,860	7,789,029	14,425,128
2016	8,302,110	1,609,160	8,325,338	9,002,389	12,435,825	10,611,549	20,761,163
2017	9,678,752	1,015,882	7,912,460	9,118,652	10,230,438	10,134,534	18,142,898
2018	9,914,612	1,427,590	7,186,242	8,869,716	10,074,788	10,297,306	17,261,029
2019	7,178,141	946,342	5,504,878	6,273,530	7,664,806	7,219,872	13,169,684

Source: Department of Mineral Resources and Energy

Diamond sector employment and earnings

	Employment	Earnings (R'000)
2009	11,601	1,790,007
2010	11,467	1,956,333
2011	12,047	2,141,484
2012	12,332	2,408,198
2013	13,579	2,870,536
2014	15,356	3,663,455
2015	18,313	4,677,942
2016	18,789	5,072,996
2017	18,038	5,430,360
2018	16,361	5,197,770
2019	15,252	4,944,653

Source: Department of Mineral Resources and Energy



OUR COMMODITIES: METALS AND MINERALS



2019 KEY FEATURES



R3.2 billion

Total sales



53,000 tonnes

Total production



R1.3 billion

Local sales

Copper production reached 116,973 tonnes in 2007.

OUR METALS AND MINERALS – COPPER CONTINUED

Since then there has been a steady decline and production at 53,000 tonnes in 2019. The market is equally divided between domestic consumption and exports.

Substitutes for copper include aluminium which is used in power cables, electrical equipment, automobile radiators, and cooling and refrigeration tubing. Titanium and steel are also substitutes used in heat exchangers. Optical fibre substitutes for copper are used in telecommunications applications, and plastics substitutes for copper are used in water pipe, drainpipe and plumbing fixtures.

South African copper production and sales

	Production	Local sales		Export sales		Total sales	
	Kilotonnes	Kilotonnes	R'000	Kilotonnes	R'000	Kilotonnes	R'000
2009	93	68	2,835,737	27	1,024,014	95	3,859,751
2010	84	57	3,160,029	25	1,209,297	82	4,369,326
2011	89	60	3,937,749	26	1,495,100	86	5,432,849
2012	70	55	3,575,956	27	1,579,105	81	5,155,061
2013	81	56	4,056,792	26	1,760,781	82	5,817,573
2014	79	45	3,483,784	37	2,466,769	82	5,950,553
2015	77	37	2,703,423	38	2,497,528	75	5,200,951
2016	65	27	1,923,681	27	1,821,207	54	3,744,887
2017	66	26	2,120,088	30	2,207,458	56	4,327,545
2018	47	23	2,027,485	27	2,050,357	50	4,077,841
2019	53	15	1,341,935	25	1,886,540	40	3,228,476

Source: Department of Mineral Resources and Energy



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