

**MINERALS COUNCIL**  
SOUTH AFRICA

# FACTS AND **FIGURES**

POCKETBOOK 2018

**#MakingMiningMatter**

# FOREWORD

**Mining plays a significant role in the economy of our nation. It is therefore important for data on our industry to be freely available so that stakeholders are able to understand how our industry is performing.**

The Minerals Council chief economist, Henk Langenhoven, and his team have compiled this document to showcase our industry using this data, and provide some insight into what the numbers mean for our country and the future of our mining industry. The Minerals Council and our members, in close co-operation with unions and government, continue to

strive for best practice in all areas, in the industry's quest for zero harm.

**The availability of credible statistics which paint an accurate picture of the South African mining sector is crucial for the Minerals Council.**



**Statistics allow us to fulfil our mandate as the voice of mining in South Africa.**

Statistics also help South Africans to develop a better, more nuanced understanding of the current state of the mining industry. They also allow the industry to

accurately represent the wider impact of mining on the country as a whole.

The Minerals Council's economics department 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 growth across it.

*A Facts and Figures 2017* interactive book was published in September 2018 and has been distributed widely – it is available on the Minerals Council website. This pocketbook provides a snapshot of the industry and the impact that South Africa's mineral wealth has on our everyday lives.

*In compiling the Facts and Figures publication, the Minerals Council relies on various primary data sources such as: Statistics South Africa, the Department of Mineral Resources, the South Africa Reserve Bank, the World Bank and the United States Geological Survey.*

*Revisions to published data by these primary data sources is a common occurrence and a standard practice in the collection and publication of data.*

*As the Minerals Council depends on the latest official data as published by the primary data source, this may by extension result in subsequent revisions to our estimates and/or published numbers.*



MINERALS COUNCIL  
MEMBERS



TOGETHER  
THESE  
MEMBERS  
IN 2018



represented **90%**  
of South Africa's  
mineral production

## THE MINING SECTOR IN 2018\*



employed  
**453,543** people



contributed  
**R22 BILLION**  
in taxes to  
South Africa



contributed  
**R127.4 BILLION**  
in employee  
earnings

\* Estimates based on latest statistics available

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## VISION

To ensure mining matters for South Africa.



## MISSION

To play a leadership role in enabling the South African mining sector to achieve its real potential for investment, growth, transformation and development in a socially and environmentally responsible manner.



# VALUES

Members are obliged to conduct their business according to the agreed Minerals Council values, which dictate the minimum standards of conduct required of them in order to become a member of, or remain a member of, the Minerals Council. The five values of the Minerals Council are:



**Responsible  
citizenship**



**Respect**



**Trust**



**Honesty**



**Accountability**

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# MESSAGE FROM THE CEO



“Mining industry  
growth was greater  
than that of the  
national economy.”

**Roger Baxter**  
Chief Executive Officer  
January 2019

## It gives me great pleasure to introduce to you the *Facts and Figures 2018* pocketbook.

Prepared to provide preliminary insights into the latest available trends in South Africa's mining industry, it is a precursor to the more comprehensive Fact and Figures booklet the Minerals Council publishes later in the year.

In 2018, it is significant that, in South Africa's post-Zuma era, mining industry growth was greater than that of the national economy. Of course, the 1.2% industry growth in 2018 is not high, outstripping national growth only because of the latter's relatively weak performance.

It is gratifying that employment in some sectors grew during the period too (coal, iron ore, manganese and chrome). However, this growth is masked by the weaknesses in the two historically strong sectors –

gold and platinum – resulting in a net job loss in the sector.

The industry is able to note a slight improvement in safety performance compared with 2017, as measured by the number of fatalities. We are pleased that the concerted safety and health campaign launched in August appears to have had an impact. However, we remain painfully conscious of the long journey still lying ahead to reach the goal of zero harm.

The Minerals Council and its members look forward to a stronger and safer 2019.

# 1.2%

industry growth  
in 2018



 Glencore – Tweefontein Colliery

# OUR METALS AND MINERALS

The mining industry is an important component of the South African economy and has been for over 100 years.

The Minerals Council estimates that the sector contributed 7.3% to the gross domestic product (GDP) in 2018 (2017: 6.8%). The sector grew by 1.2% in 2018 representing a growth rate slightly faster than in the overall economy. The sector is estimated to have contributed R356 billion to GDP in 2018 (2017: R335 billion) (in nominal terms).

Mining sector employment declined by 56,366 over the last five years, from 509,909 in 2013 to 453, 543 in 2018. Net jobs lost in the sector amounted to 11,217 in 2018. Mining employment represents 6.4% of private non-agricultural employment and 4.7% of total non-agricultural employment.

The industry contributed R93 billion to fixed investment in 2018, which constituted 17% of private sector fixed investment and 10.5% of the country's total fixed investment spending for the year (**Note: substantial revisions of investment data were made by Statistics South Africa**). There has been virtually no growth (weighted average of 0.4%) in fixed investment in the sector during 2018, with substantial volatility in spending which reflects uncertain prospects due to commodity price fluctuations (internationally) and domestic policy uncertainty. It does seem as if fixed investment reached a lower turning point in 2016, and

reached the decade average spending level in 2018.

The industry exported R312 billion worth of commodities, 25% of the country's R1.25 trillion export sales. The rand strengthened (+0.8%) against the US dollar in 2018, adversely affecting rand receipts of exports, which decreased by 5%, while on a US dollar equivalent basis, exports increased by 2%.

In the 2017/2018 fiscal year the industry paid R7.6 billion in royalties, representing a 31% increase on the prior year. The industry paid R22 billion in company taxes for the same period and contributed R21 billion to PAYE.

# MINING

## CONTRIBUTION SUMMARY:

### IN 2018\*

Direct contribution of mining to GDP:

**R356 billion**

(2017: R335 billion)

Mining GDP growth rate (2017/2018):

**1.2%**

Mining contribution as % of total GDP:

**7.3%** (2017: 6.8%)



Direct contribution of mining to fixed investment:

**R93 billion**

(2017: R81 billion)



Total primary mineral sales:

**R475 billion**

(2017: R474 billion)

Mineral export sales:

**R312 billion**

(2017: R307 billion)



Royalties paid:

**R7.6 billion**

(2017: 7.5 billion)



Company taxes paid:

**R22 billion**

(2017: R19 billion)



PAYE by mining personnel:

**R21 billion**

(2017: R19.1 billion)

\* Estimates based on latest statistics available

## OUR METALS AND MINERALS CONTINUED



“Mining sector dollar earnings are equal to half of the country’s foreign reserves.”

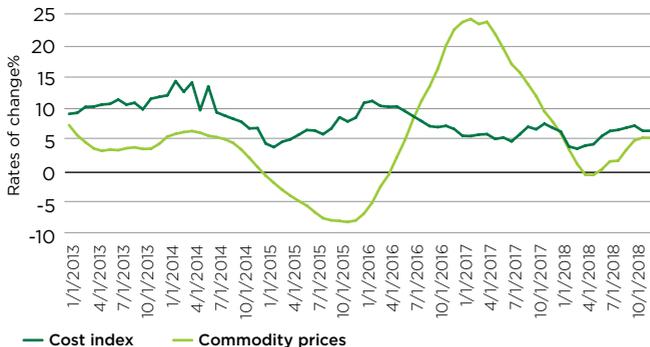
The mining sector exported 66% of its production to international buyers or commodity markets. These dollar earnings are equal to half of the country’s foreign reserves (+/- US\$50 billion).

The sector has no control over international commodity prices, nor does it have any influence on the level of the rand currency exchange rate vis-à-vis the dollar (in most

cases). Input costs are largely determined by domestic cost pressure (imported costs +/- 12%). Apart from labour costs (35%), nearly 50% of intermediary input costs are influenced by administered prices and provided by state-owned enterprises. The profitability of mining companies is therefore highly vulnerable to any adverse movements of these variables (lower commodity prices, an appreciating exchange rate, exorbitant tariff or administered price increases).

Dollar commodity price movements have been varied during 2018, and, coupled with the rand/dollar exchange rate strengthening (0.8% on average) during 2018, rand price changes were lower than dollar movements would have suggested.

## Rand commodity price and input cost movement



Rand/dollar  
exchange rate  
strengthened

**0.8%**

during 2018

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

## Composite selling price index

VARIABLE	COAL	IRON ORE	GOLD	PLATINUM
WEIGHT IN THE INDEX	28%	11%	19%	24%
DOLLAR % MOVEMENT	18.6%	-2.7%	0.9%	-7.3%
RAND % MOVEMENT	17.7%	-3.5%	-0.3%	-8.5%

Source: Minerals Council South Africa

# OUR METALS AND MINERALS CONTINUED

## Costs

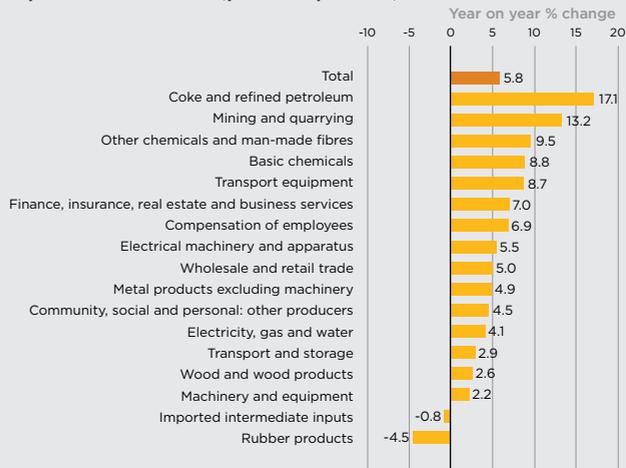
In 2018, the mining sector experienced an input cost inflation of approximately 6%. This is a weighted average percentage movement, the result of multiple moving parts, as depicted in the graph below. Industrial chemicals and petroleum were key drivers of the inflation profile.

On aggregate, rand commodity prices increased 1.7% in 2018, therefore representing a substantial negative differential between input cost inflation and selling price inflation.



■ DRD GOLD Limited – Ergo plant

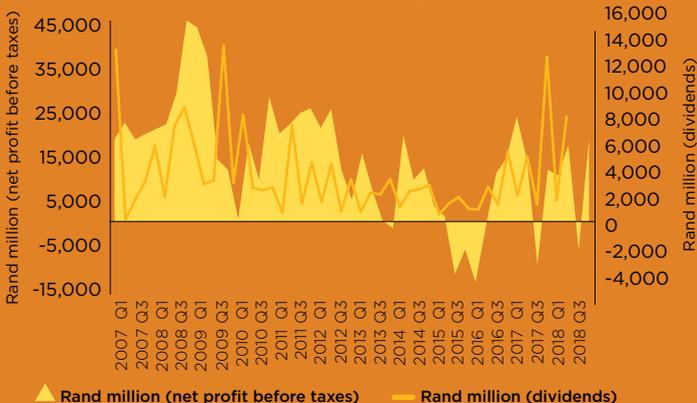
## Input cost inflation (per component)



Source: Statistics South Africa, Minerals Council South Africa

Due to the combination of rand commodity prices stagnating since their peak at the beginning of 2017, and costs rising consistently faster than the former, the mining sector has been in a ‘profit squeeze’ for at least the last five years. This has negatively affected dividend payments to investors.

Net profit before taxes and dividends paid



Source: Statistics South Africa, Minerals Council South Africa



# COAL

■ MC Mining - Vele

**Coal is the largest component of mining by sales value and is a critically important source of primary energy (electricity and liquid fuels) that drives the economy.**

## Industry challenges

- Poor policy cohesion (e.g. Eskom's 51% broad-based black economic empowerment (BBBEE) requirement versus the 30% for the Mining Charter) and the lack of predictable pro-growth environment
- Licensing - environmental licensing, prospecting rights, mining rights
- Rail tonnage constraints (Overvaal tunnel on Coalink Line)
- The exploitation of the Waterberg reserves (requiring large investments)

- Community unrest at mining company sites demanding jobs and tenders
- Challenges within local government structures and communities demanding services from mining companies which are in fact in the remit of local government

## Potential solutions and forecasts

- Coal has an export potential of 110 million tonnes (Mt) (versus the current 75Mt). An additional 35Mt would entail:
  - Potentially raising employment by 11,600 people
  - Increasing investment by more than 10% (2017: gross fixed capital formation (GFCF) at R18 billion) to an estimated R20 billion per annum
- Domestic demand: Eskom buys 120Mt of coal annually:
  - Latest Integrated Resource Plan estimates coal consumption by Eskom to rise from 120Mt in 2017 to 139Mt by 2023, and then decline to the current level by 2033, declining further to 90Mt by 2050
  - The potential for job creation due to domestic demand is therefore in the order of 6,500 people, accompanied by additional investment of R1.3 billion
  - Taking into consideration the declining life of several coal mines, several coal mines would need to be replaced. Estimates indicate that R20 billion worth of investment is needed to keep supplying Eskom with coal

86,919



Direct employees

5.3%

R24.7  
BILLION



Employee earnings

10%

R1.637  
BILLION



Royalties paid

49%



Production

252.6  
MILLION TONNES

0.16%



Total sales

R139.4  
BILLION

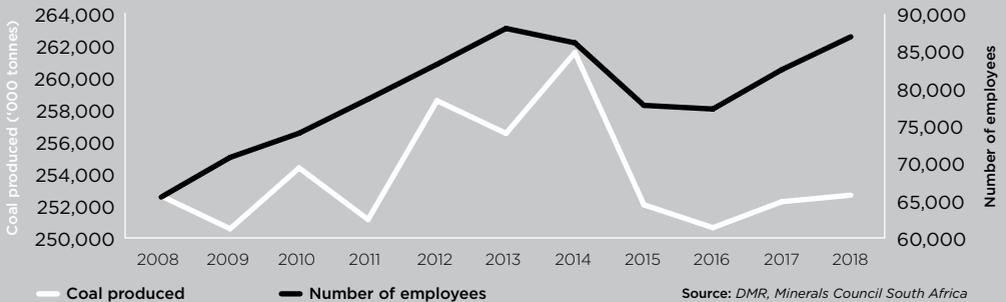
7%



Value of  
percentage exported

49%

### Coal production and employment: 2008 - 2018



Source: DMR, Minerals Council South Africa

# PLATINUM

## group metals (PGMs)

PGMs consist of six noble metals, all silvery-white in appearance – platinum, palladium, rhodium, ruthenium, osmium and iridium.



*Impala Platinum – Rustenburg*

Platinum, palladium and rhodium are the primary metals of significant economic value. They are used largely for jewellery and in the automotive industry for their excellent catalytic properties. Other uses include investment (coins and bars), fuel cells, and many other industrial purposes.

### Industry challenges

- An over-supplied platinum market has resulted in a sustained decline in prices

- Input costs, such as labour, electricity and supplies, have been increasing at a rate above inflation, whilst revenue from metal sales has been declining due to low PGM commodity prices. This has resulted in sustained losses in many mines
- The industry is also faced with some structural challenges, which include:
  - Rhodium has been substituted out of auto-catalytic converters. The commodity accounted for approximately 25% of revenue in 2007 but is now down to approximately 5% in 2018
  - Platinum has been substituted out of gasoline auto-catalytic converters
  - Recycling has increased 4-fold from ~500koz to >2moz, replacing demand for mined platinum
  - Auto-catalyst demand for platinum continues to decline on the back of European anti-diesel sentiment

- Investment in the industry has dropped by as much as 43%

### Potential solutions and forecasts

According to Minerals Council estimates, if various initiatives are undertaken, the industry has the potential to grow total sales to US\$35 billion per annum by 2050 (versus a status quo scenario of US\$11 billion by 2050). These initiatives include:

- Promoting significant investment demand for platinum
- Increasing investment in stimulating global demand for platinum jewellery
- Playing a leading role in adopting and accelerating the roll-out of the platinum-based hydrogen economy
- Improving vehicle emission standards in Brazil, Russia, India, China and South Africa (BRICS) economies
- Encouraging real driving emission tests on diesel cars
- Continual research into new uses for platinum



**-3%**



**-2%**



**6%**



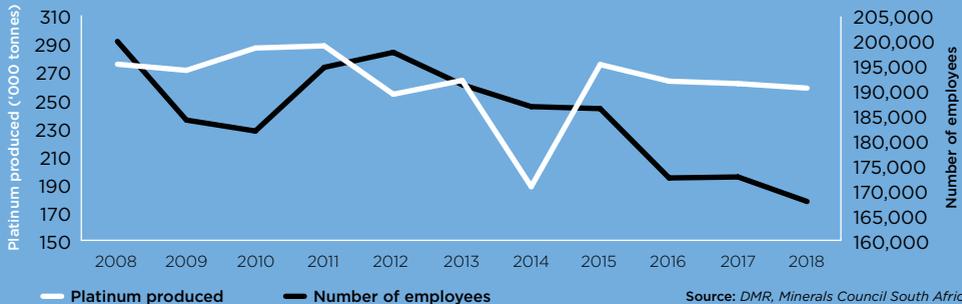
**-1.2%**



**-1%**



**Platinum production and employment: 2008 - 2018**



Source: DMR, Minerals Council South Africa





# GOLD

 Rand Refinery

**Gold remains one of the world's most coveted metals, revered for its beauty and symbolism, and held as a store of value. This versatile metal is malleable, conductive and does not tarnish, making it ideal for use in jewellery and many industrial applications.**

## Industry challenges

- Limited new investment in new mines as a result of a challenging policy, regulatory and operating environment, as well as a constrained pipeline of new projects due to minimal exploration
- Illegal mining, crime, theft of precious metals and security at the mines – seven tonnes of gold is lost annually as a result
- Limited investment in innovation and technology development between 1992 and 2016
- Rapidly increasing input costs, which in turn threaten the sustainability of the industry. Electricity, steel and wage costs have risen much faster than inflation. Electricity prices have trebled in the past seven years
- Concerns over the future reliability of critical inputs such as electricity
- Ongoing legislative and tax cost increases (e.g. municipalities taking over water and electricity supply at a much greater cost to the industry)
- Falling productivity (lower grades, increasing depth)
- Community expectations, community protests and various challenges in local government
- Labour market stability (inter-union rivalry, lack of union recognition of the dire economic and financial position of some mines/shafts)

### Potential solutions and forecasts

- Collaborating to ensure more efficient Medical Bureau for Occupational Diseases/Compensation Commission for Occupational Diseases (MBOD/CCOD) and compensation legislation
- Stabilising production at close to current levels and sustaining employment levels and economic contribution to the economy
- Unlocking potential through increased research and development (R&D) and rapid introduction of modern techniques to sustain production by improving productivity (e.g. more precise rock-drilling, resulting in less rock waste to surface)

which counters lower grades of ore; improving advanced ore body knowledge; non-explosive mining methods, etc.

- Introducing specialised police mining units and recruiting suitable expertise to tackle crime
- Stabilising unsustainable rise in administered prices which represent 50% of intermediary costs for mines and are completely out of mining companies' control
- Curb new taxes, imposts and levies on input costs e.g. carbon tax
- Stabilising Eskom (financially and operationally). (The industry is prepared to help)
- Improving policy and regulatory certainty and competitiveness and creating an enabling environment for

exploration to encourage new investment in gold mining

- Solving local government challenges and enabling greater co-operation between mining companies on SLPs and community development
- Encouraging better labour market stability, including the conclusion of workable wage deals that assist sustainability

“Gold is revered for its beauty and symbolism.”

101,085



Direct employees

-10.5%

R26.5  
BILLION



Employee earnings

-12.5%

R590  
MILLION



Royalties paid

-36.5%



Production

132.2  
TONNES

-14%



Total sales

R69.9  
BILLION

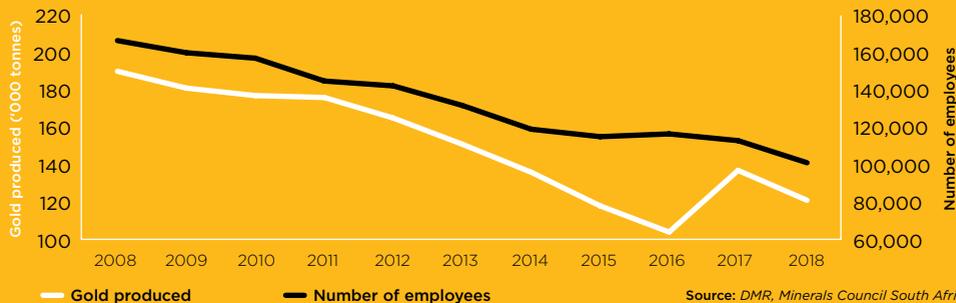
-15%



Value of  
percentage exported

50%

### Gold production and employment: 2008 - 2018



Source: DMR, Minerals Council South Africa



# IRON ORE

 *Kumba Iron Ore – Kolomela mine*

**Iron is the most common element on earth, comprising most of the planet's inner and outer core. Iron has been used by humans since ancient times to make tools. Most iron is used to manufacture steel, which is in turn used to manufacture machines, buildings and tools.**

## Industry challenges

- Policy, regulatory and operational uncertainties have inhibited new investment and exploration
- Known reserves are estimated to be depleted within the next 20 years (without further exploration and discoveries)
- Rail capacity as well as reliability of the installed rail line to the Saldanha Bay harbour

- Community unrest and challenges within local government structures
- Double-digit increases in administered pricing challenges (electricity, water)

## Potential solutions and forecasts

- Although a limited resource, South African iron ore is of a higher grade, commanding world prices

in the upper tier

- Encouraging consolidation of remaining iron ore reserves
- Encouraging further exploration
- Transnet could improve its reliability on the railway line to enable key producers to meet their customer commitments
- Improving local government performance and industry community development

“Iron is the most common element on earth.”

18,077



Direct employees

4.2%

R6.3  
BILLION



Employee earnings

9.1%

R2.2  
BILLION



Royalties paid

33.1%



Production

74.6  
MILLION TONNES

-0.2%



Total sales

R45.5  
BILLION

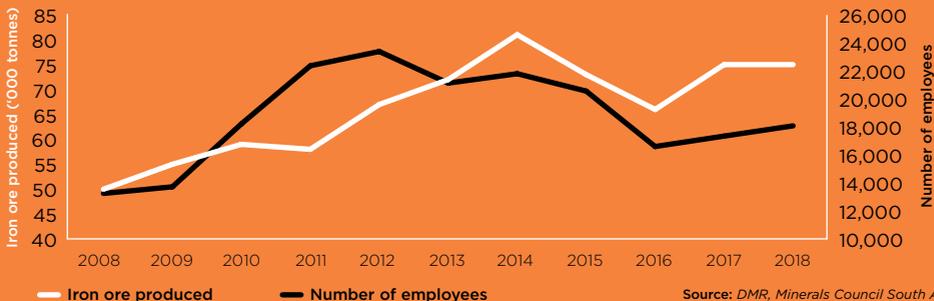
-7.8%



Value of  
percentage exported

88%

### Iron ore production and employment: 2008 - 2018



Source: DMR, Minerals Council South Africa



# MANGANESE

*Ntsimbintle – Tshipi é Ntle Manganese Mining*

**South Africa accounts for approximately 80% of the world's identified manganese resources and is also the largest producer of manganese globally.**

## Industry challenges

- Inadequate electricity and rail infrastructure
- Export growth limited by rail and port capacity
- Local beneficiation limited by energy costs, supply and installed capacity
- Community unrest and challenges within local government structures
- Double-digit increases in administered pricing challenges (electricity, water)

## Potential solutions and forecasts

- South Africa has 80% of world reserves but only manages 30% of total production
- Rail capacity to Port Elizabeth (PE) is currently only 5.5Mt per annum but could be upgraded to 12Mt
- Potential sharing of the Sishen-Saldanha line could add another 10Mt per annum and is much more cost effective on a volume-km adjusted basis

- Port Elizabeth port capacity is 6Mt but could be upgraded to 10Mt by 2023
- Saldanha Bay harbour capacity expansion possible but currently constrained

**The main uses of manganese are in industrial and metallurgical applications, batteries and chemicals.**

8,602



Direct employees

7.6%

R2.6  
BILLION



Employee earnings

6.9%

R665  
MILLION



Royalties paid

534%



Production

14.6  
MILLION TONNES

1.66%



Total sales

R43.2  
BILLION

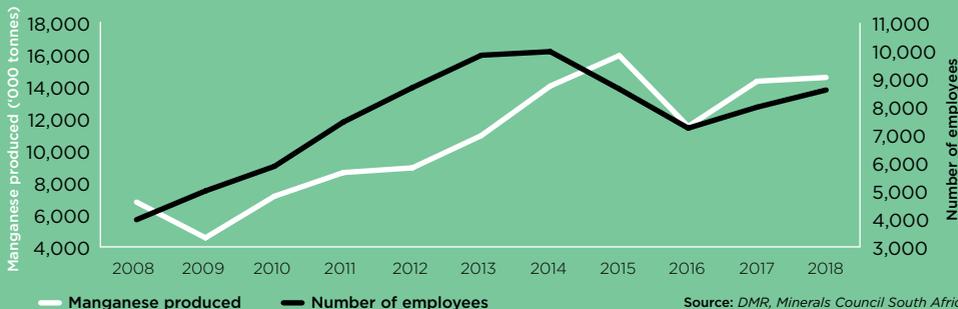
38.2%



Value of  
percentage exported

98%

### Manganese production and employment



Source: DMR, Minerals Council South Africa



# CHROME

■ *Northam Platinum – Booysendal chrome plant*

**Chrome is known for its high corrosion resistance and hardness. It is essential in the production of stainless steel, which accounts for 85% of its commercial use.**

Around 70% of the world's chrome resources can be found in South Africa, which is also the largest producer of chrome globally.

## **Industry challenges**

- Due to the insufficient supply and high cost of electricity, the country has

virtually lost, or is not fully utilising, its ferrochrome smelting capacity

- Illegal mining of chrome

## **Potential solution and forecast**

- South Africa has 70% of the world resources but only commands 46% of production. Given the increasing demand of chrome, particularly from China, there is significant scope to increase production

South Africa is the largest producer of chrome globally.

18,397



Direct employees

7.3%

R5.2  
BILLION



Employee earnings

9.2%



Production

18  
MILLION

-18.7%



Total sales

R22.1  
BILLION

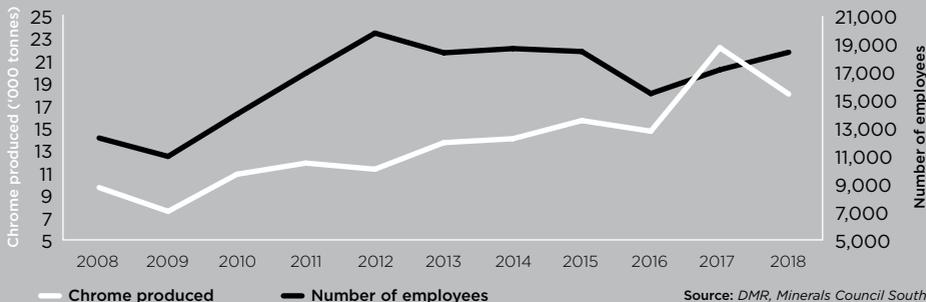
-29.5%



Value of  
percentage exported

47.1%

### Chrome production and employment: 2008 - 2018



Source: DMR, Minerals Council South Africa

# DIAMONDS

**Diamonds, arguably the ultimate luxury mineral, comprise an intricate lattice of carbon atoms, a crystalline structure that makes them harder than any other form in nature.**



*Petra Diamonds – Cullinan mine*

This characteristic makes diamonds not only popular in jewellery, but also desirable in high-tech cutting, grinding and polishing tools.

## Industry challenges

- The gazetted Mining Charter 2018:
  - The Mining Charter as gazetted now applies to the diamond sector which is legislated by the Diamonds Act (2006)
  - Requirements have been outlined according to

thresholds as stipulated in Sections 4.3 and 4.4 of the Mining Charter

- Requirements for dealers and diamond beneficiators may have an adverse impact on their businesses – with the unintended consequence being the ability of diamond producers to meet their required gross local sales target of 15% (medium producers) and 40% (large producers)
- This may place further pressure on an industry that has been in a decline for the past decade
- A more holistic discussion regarding the growth, transformation and competitiveness of the downstream sector is required
- Illegal mining activities are on the rise (Kimberley, Koffiefontein, Namaqualand, etc.)
- Safety (illegal miners and communities), environmental and social concerns

- Illegal mining activities undermine the Kimberley Process status of South Africa (this includes companies that have activities downstream and are driving consumer demand based on responsible sourcing)

## Potential solutions and forecasts

- A clear regulatory framework needs to be outlined in instances where illegal miners are formalised into artisanal miners
- The diamond industry, the DMR and the South African Police Service need to work together to facilitate the prosecution of those involved in illegal mining
- A diamond industry champion from the DMR is proposed by the Minerals Council who could work in partnership with a counterpart champion from the diamond industry to resolve the challenges discussed and facilitate actions that would re-ignite growth

16,666



Direct employees

-7.7%

R5  
BILLION



Employee earnings

-7.4%

R353  
MILLION



Royalties paid

40.9%



Production

10.5  
MILLION CARATS

8.2%



Total sales

R16.3  
BILLION

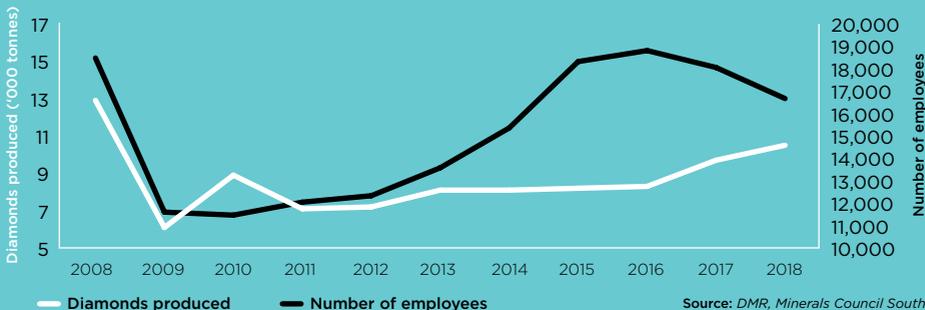
10.0%



Value of  
percentage exported

55%

### Diamonds production and employment: 2008 - 2018



Source: DMR, Minerals Council South Africa



# ZINC

 Vedanta Zinc International – Gamsberg

**Commercially-viable zinc deposits in South Africa were first discovered in the late 1960s, in what is today’s Northern Cape province.**

The most significant chemical component property of zinc is its high reduction potential, which is responsible for its extensive use in coatings on steel and as a sacrificial anode in protecting pipelines and ship hulls. Metals that have been galvanised with zinc are also used in car bodies and street lamp posts.

## **Industry challenges**

- Local beneficiation limited by inadequate electricity supply and installed capacity

- Community unrest at mining company sites demanding jobs and tenders
- Challenges within local government structures and communities demanding services from mining companies which are in fact in the remit of local government
- Town development limited by the Spatial Development Framework (SDF), a major hindrance for investments
- Administered pricing challenges (electricity, water)
- Logistical issues

## **Potential solution and forecast**

- South Africa has one of the largest undeveloped zinc deposits in Gamsberg, which is a marginal ore body that has been undeveloped in the past 40 years

“The most significant chemical component property of zinc is its high reduction potential.”

24,194



Direct employees

-21%

R726  
MILLION



Employee earnings

-26%

R13  
MILLION



Royalties paid

60.8%



Production

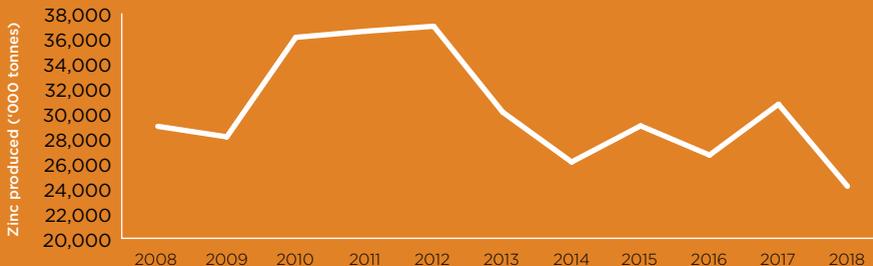
24

MILLION TONNES

Gamsberg, a marginal ore body, largely undeveloped in the past

**40 years**

Zinc production: 2008 - 2018



Source: DMR, Minerals Council South Africa



## OTHER MINERALS

### Production: 2008 - 2018

	Silver (t)	Cobalt (‘000kg)	Lead concentrate (t)	Nickel (t)	Uranium (‘000kg)	Aggregate and sand (kt)	Feldspar (kt)
2008	75	244	46	32	654	58,608	106
2009	78	238	49	35	629	53,604	101
2010	79	840	51	40	682	52,625	94
2011	73	862	54	43	656	51,595	102
2012	67	1,102	52	46	551	54,649	94
2013	69	1,294	42	51	626	60,375	191
2014	49	1,332	29	55	668	62,192	103
2015	52	1,362	35	57	528	63,779	130
2016	56	1,101	39	49	450	64,478	128
2017	63	1,062	48	48	304	67,394	116
2018	49	940	33	41	240	59,706	74

	Granite (kt)	Gypsum (kt)	Limestone and lime (kt)	Salt (kt)	Shales for cement manufacture (kt)	Silica (kt)	Sulphur (kt)
2008	544	571	23,495	430	418	3,342	571
2009	396	598	22,698	408	462	2,306	536
2010	346	513	22,480	394	388	2,863	375
2011	332	476	21,630	380	401	2,688	338
2012	271	558	21,637	399	423	2,155	257
2013	331	559	21,966	477	468	2,296	270
2014	233	376	21,776	494	402	2,605	277
2015	263	232	22,927	517	333	2,278	284
2016	253	257	23,358	488	380	1,884	281
2017	282	318	24,715	507	359	2,448	257
2018	281	355	22,399	458	301	2,209	232

Source: DMR



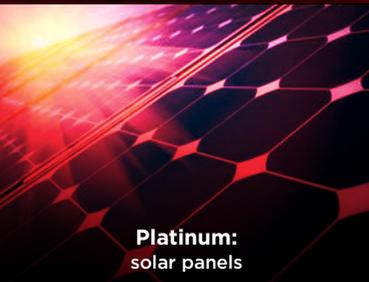
**Coal and gold:**  
jet fuel and aircraft engines



**Platinum:**  
glass



**Coal:**  
energy generation



**Platinum:**  
solar panels



**Gold, platinum and diamonds:**  
jewellery



**Copper:**  
water pipes



**Copper:**  
door handles



**Platinum:**  
fuel cells



**Copper:**  
air conditioners

# MINING IN



**Silver:**  
LEDs



**Silver:**  
telescopes



**Platinum and gold:**  
laptop and hard disc



**Platinum and gold:**  
watches



**Chrome, copper  
and magnesium:**  
paint pigments



**Aluminium and magnesium:**  
alloy wheels



**Steel, aluminium,  
aggregate and sand:**  
bridges



**Chrome:**  
cans



**Platinum and gold:**  
dentistry

# OUR LIVES



**Platinum:**  
pacemakers



**Steel and titanium:**  
surgical implants



**Silver:**  
mirrors



**Steel:**  
vehicle bodies



**Steel:**  
street light bases



**Aluminium:**  
bike frames



**Steel, copper and aluminium:**  
wind turbines



**Platinum:**  
cellphones



**Coal and gold:**  
pharmaceuticals



**Platinum:**  
airbags



**Platinum:**  
catalytic converters



**Steel and aluminium:**  
metal furniture



**Silver, gold and titanium:**  
space shuttles



**Gold:**  
coinage



**Silver:**  
batteries



**Titanium:**  
drill bits



**Aluminium:**  
pots



**Gold:**  
medals and awards

**If it's not  
grown,  
it's mined**



# SAFETY AND HEALTH

## **Safety performance in the mining industry improved slightly in 2018.**

The first half of 2018 was fairly challenging in terms of safety performance. Tragically 84\* people lost their lives in mining-related accidents in 2018, compared to 89 in 2017. This marks a slight improvement following 2017's regression, the first in the last decade.

A particular concern during 2018 has been the number of disasters that occurred in the mining industry where a significant number of lives were lost. This challenge further increased the need to improve zero harm efforts by all stakeholders.

The Mine Health and Safety Council (MHSC) successfully hosted the 2018 Mine Occupational Health and Safety Summit which formed part of the tripartite approach to safety and health. The Minerals Council was an active participant at the summit.

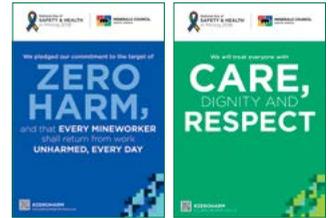


Some of the key discussion areas included the right to refuse dangerous work, falls of ground rock bursts, fires and explosions, noise induced hearing loss, the Culture Transformation Framework, TB and HIV. The outcomes of the summit will be made available by the MHSC.

The Minerals Council launched the National Day of Safety & Health in Mining 2018 under the slogan: **Safety and Health, First, Always and Every Day**, with the hashtag **#ZeroHarm**.

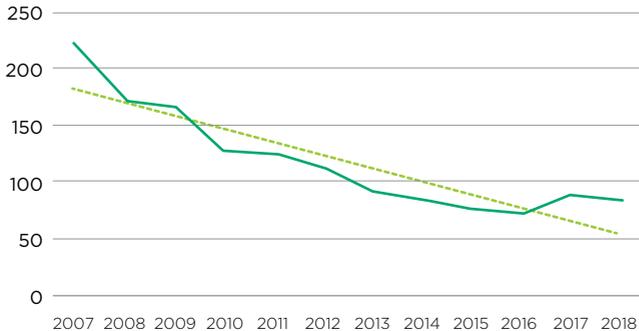
The launch signalled the start of a month-long initiative by member companies to recommit and reaffirm the industry's commitment to safety and health, particularly the MHSC milestones. Member companies successfully hosted some 93 safety day events at their operations, with the ultimate aim of ensuring that all employees can go home with the knowledge that they will return home, every day, unharmed.

There has been a greater focus on the improvement of safety and health R&D. The industry has committed resources for research organisations to investigate alternative extraction methods and technology that will improve health and safety performance.



**National Day of Safety & Health in Mining 2018 campaign**

### Mining industry fatalities: 2007-2018\*



\* Based on available information. The final performance figures are still to be published by the DMR.

“Member companies successfully hosted some 93 safety day events at their operations.”

# OUR PEOPLE



African Rainbow Minerals – Modikwa

## Mining has continued to be a significant provider of employment in South Africa.

Mining contributes to various industries and has an extensive supply chain. Jobs in mining translate to employment in other industries.

Apart from providing much needed jobs, the mining sector is a major contributor to South Africa's skills development agenda. Mining companies are required by the Skills Development Act and the Mining Charter to contribute 1% of payroll

to the skills levy and 5% of payroll to human resource development respectively. This amounts to an investment in excess of R7.5 billion per annum into education, training and development for employees, non-employees, youth, women and communities at both the basic education and higher education levels.

The future success of the mining industry relies on the continuous development of

technical innovation and the nurturing and retention of human capabilities. Mining companies invest in employee training and development in many forms that include learnerships, bursaries, apprenticeships, internships and adult education. Over the past five years, more than 90% of the skills development interventions in the sector were focused on historically disadvantaged individuals and more than 90% of these interventions were in the core and critical skills for mining. The mining industry, through collaboration of all social partners, was able to achieve some of the following in 2018:

- More than 2,000 higher education bursaries awarded
- More than 2,000 higher education learners/ graduates supported through internships, graduate development programmes and work experience opportunities
- More than 3,000 artisans supported in attaining their qualifications

# WOMEN IN MINING



**Since the promulgation of the MPRDA in 2002 and the Mining Charter in 2004, the number of women in the industry has significantly increased.**

In the period 2002 to 2004, women representation in mining was a meagre 3% and had progressed to about 12% in 2013. In the last five years, this representation has improved to 15%. Improving the representation of women in mining at a faster pace has been a challenge and numerous industry initiatives are underway to make a career in mining more welcoming to prospective female employees. It is, however, pleasing to note that the number of women in top management, senior management and professionally qualified designations has increased from below 17% to above 19% representation in the last five years.

# WOMEN IN MINING CONTINUED

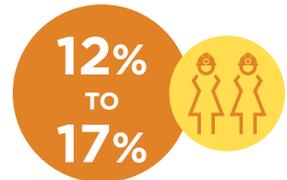
## Women in mining by commodity in 2018

	No of women employees	% of women employees
PGMs	19,060	11
Gold	12,149	12
Coal	11,195	13
Chrome	3,058	17
Iron ore	2,587	14
Diamond	2,362	14
Cement, lime aggregates and sand	1,456	18
Manganese	1,393	16
Other minerals	894	15

Source: Department of Mineral Resources

## Training and development of women in mining

As the industry seeks to encourage the participation of women at all levels, special focus is placed on their training and development.



The number of training interventions being attended by women in mining has increased from 12% in 2013 to approximately 17% in 2018.

## Women representation in the mining industry

- **16%** of top management
- **17%** of senior management
- **24%** of professionally qualified employees
- **18%** of employees in the skilled and technical area

# MINING TRANSFORMATION



## Mining Charter 2018 the journey

- 01 February 2018**  
Gwede Mantashe appointed Minister of Mineral Resources
- 02 March 2018**  
Thorough consultation on the revised Mining Charter began
- 03 March to June 2018**  
The DMR conducted regional/provincial community engagements on the Mining Charter
- 04 Mid-June 2018**  
Draft Mining Charter published
- 05 July 2018**  
Mining Charter Summit hosted by the DMR
- 06 September 2018**  
Final Mining Charter was gazetted by Minister Mantashe
- 07 October 2018**  
Stakeholder consultations on the Implementation Guidelines
- 08 December 2018**  
Implementation Guidelines published
- 09 2019**  
Mining Charter to be effective

## **MINING TRANSFORMATION** CONTINUED

Socio-economic transformation of the mining sector remains a business imperative and a critical journey for the mining industry. The year 2018 was packed with great transformation milestones. In February 2018, Mr Gwede Mantashe was appointed as the Minister of Mineral Resources and this was welcomed by all industry stakeholders. In March, Minister Mantashe began a thorough consultation on the revised Mining Charter. He established two task teams – one focused on the Mining Charter and transformation (the MCTTT) and the other on growth and competitiveness in the sector (the GCTT). From March to June 2018, the MCTTT made up of social partners (labour, mining industry and the DMR) met and negotiated all the elements of the Mining

Charter. During the same period, the DMR conducted regional/provincial community engagements on the Mining Charter. The GCTT also began meeting from March to November 2018.

The draft Mining Charter was published in mid-June 2018 for public comment which was open for 60 days. This was followed by a Mining Charter Summit hosted by the DMR from 7 to 8 July 2018 in which all industry stakeholders participated. The summit was attended by over 1,000 delegates and elements of the draft Mining Charter were reviewed by participants in focus groups. During the public commentary period, various stakeholders and interested parties submitted their comments to the DMR. The industry submitted a comprehensive document through the Minerals Council,

outlining the areas of concern for the industry, investors and the general economy.

The final Mining Charter was then gazetted by Minister Mantashe at the end of September 2018. The general impressions were that it was a balanced policy document that stakeholders could work with. The industry again raised some concerns about a few fundamental provisions with the Minister and the DMR team. During October 2018, the Minister invited stakeholders to consultations on the Implementation Guidelines which the DMR was developing to provide some clarity and policy guidance. The Implementation Guidelines were then published on 20 December 2018. The Mining Charter 2018 will be effective from 2019.

# MINING CHARTER 2018

## MAJOR CHANGES



### Ownership

- A ring-fenced element that always requires **100%** compliance
- **30%** historically disadvantaged persons (HDPs) shareholding for new mining rights
  - **5%** shareholding (as a carried interest) to qualifying employees
  - **5%** shareholding (as a carried interest) or equity equivalent to host communities
  - **20%** shareholding to BEE entrepreneurs (5% shareholding preferably to women)



### Inclusive procurement and enterprise and supplier development (ESD)

- **70%** South African manufactured goods (mining goods and consumables) – requiring a 60% local content to be deemed South African manufactured goods from year 3
- **80%** services from South African-based companies



### Employment equity

- Progressive targets for HDPs – up to **70%** at junior management level
- Specific targets for women – up to **30%** at junior management level

### Mine community development

- A ring-fenced element that always requires **100%** compliance
- No target – but a meaningful contribution should be made
- Greater community engagement in identifying developmental priorities

### Junior miners

- Separate provisions for junior miners according to annual turnover and the number of employees

# MODERNISATION



**As mining depths increase and conditions become more challenging, there is an urgent need to modernise the industry. Mechanisation is one pillar of modernisation.**

With conventional mining, the gold industry will see a sharp decline in production by 2019/20, with reserves exhausted by 2033. Through mechanisation and 24/7 operations, annual output could be sustained to at least 2025 and beyond.

Mechanisation would see an additional 592 metric tonnes of gold resources being mined, equivalent to 11 large gold mines, as well as an additional 360 metric tonnes of platinum, equivalent to eight large platinum mines.

Mining companies have spent over R500 million annually over the past few years on innovation. In 2016, the government committed R150 million towards this initiative.



BY  
2020



The Minerals Council has identified the products, technologies, people and infrastructure required to mechanise the stoping and development cycle with remotely-operated equipment.

BY  
2045



Similar requirements have been developed for a 24/7 mechanised mining system that operates without explosives.

# WHAT DO WE MEAN BY MODERNISATION?

Modernisation is not simply mechanisation. It is a process of transition and transformation of the mining industry of yesteryear to that of tomorrow.

Modernisation will be driven by technological innovation, which in turn needs to be driven by R&D. To be successful, the approach to modernisation must be holistic, and in a systems and people-centric manner.

Modernisation could save around 200,000 jobs by 2030, affecting two million dependants.

The Minerals Council has conducted extensive research into mine modernisation and has developed a strategic framework to guide the mining sector in achieving its objectives. Three key enablers are:



RESEARCH AND DEVELOPMENT	MINING MANUFACTURE	SUSTAINABILITY
Massive investment is required, with initial focus on narrow-reef, hard-rock mining equipment and systems.	A mining capital goods development programme is being developed to facilitate immediate manufacture of R&D equipment, industrialisation using local labour, reduced cost of ownership for mines and optimal mining production.	A transition road map for modernisation will include sustainability impact assessments of future mining scenarios and accelerated skills development of employees in local communities.

# ILLEGAL MINING

**Illegal mining constitutes a multi-billion-rand industry which represents significant challenges and threats to national security and socio-economic development.**



Illegal mining has a range of negative social and financial impacts on the state, employees, companies, the mining sector and the country as a result of loss of revenue, taxes, employment opportunities, capital expenditure, exports, foreign exchange earnings and procurement. It therefore presents a serious risk to the sustainability of the mining industry and its ability to contribute to a meaningful future for all South Africans.

Illegal mining and organised crime are usually interrelated as illegal mining is very often spearheaded by globally-connected criminal syndicates. The growth in illegal mining could be attributed to a combination of a difficult socio-economic climate, limited resources at the disposal of law enforcement agencies such as police, immigration, border controls and prosecuting authorities, thriving syndicates, a lack of

legislation to charge illegal miners and government's more recent approach to legalise illegal activities.

The DMR recently implemented the issuing of small-scale mining licences to illegal miners in the Northern Cape. Whilst this was a positive step to contribute to local economic development, it also had unintended security consequences. The issue is exacerbated by the lack of clarity around the government's regulatory framework for artisanal mining. The Northern Cape has consequently experienced a significant increase in the illegal mining of diamonds. Collaboration between multiple impacted stakeholders is critical to effectively address the enormous challenge of illegal mining.

# CONTACT DETAILS

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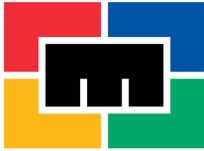
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**#MakingMiningMatter**