



CHAMBER OF MINES
of South Africa

THE FUTURE OF THE SOUTH AFRICAN MINING INDUSTRY

Roger Baxter
Chief Executive
November 2015



PUTTING
SOUTH AFRICA
FIRST

Is the end nigh for the SA mining sector?



Mining in South Africa is facing a crisis of legitimacy as support from local communities and the broader society is waning, said Chairperson of the Bench Marks Foundation Bishop Jo Seoka.

Speaking at the annual meeting of the watchdog NGO in Johannesburg on Monday, Bishop Seoka said never before in the industry's history had mining faced so many community protests, strikes and negative reports of various issues.

Mining problems: SA in crisis mode

August 6 2015 at 07:45am
By Dineo Faku

**“The reports of my death
are greatly exaggerated**

Misquoting Mark Twain

Mining matters for the World and for South Africa



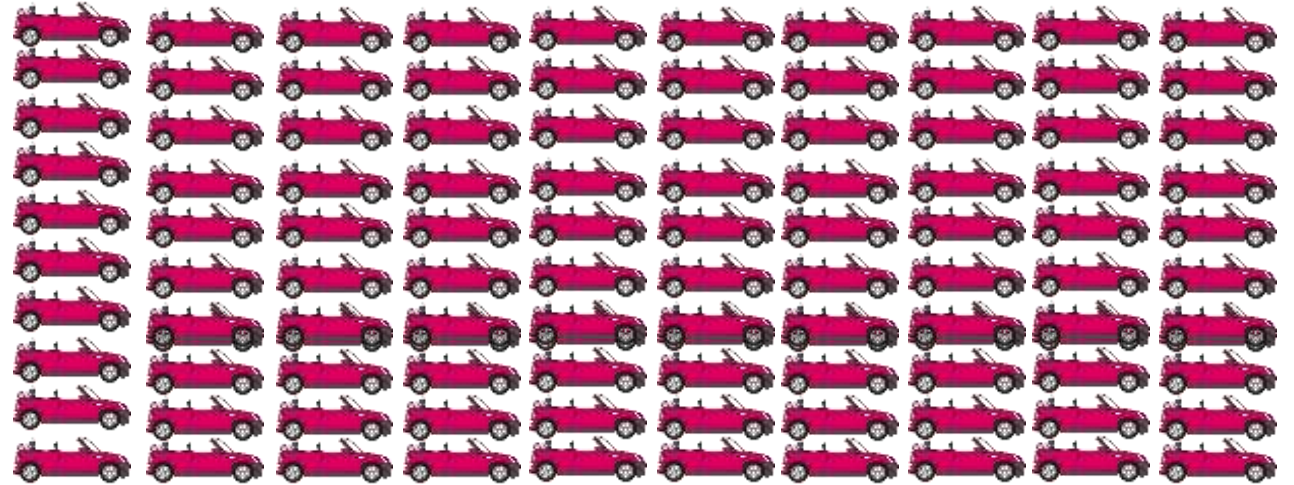
Mining helps give us a cleaner future

Emissions from
one car sold in
1960s



=

Emissions from 100 cars sold in 2015



PGMs, technology development and standards enabled this to happen

PGM vehicle emission catalysts including exhaust system catalysts, catalysed particulate filters and emission absorbers convert 99% of combustion engine pollutants (HC, CO, NOx, and particulates) enabling vehicle producers to meet EU standards

Mining gives us energy for development

Platinum based fuel cell technology is unlocking the potential of the hydrogen economy



See www.platinumpowerfuelcell.co.za

Chamber 100kW FUJI fuel cell

- First base-load 100kW platinum fuel cell installed in Africa
- In operation since 18/12/2014
- Uses natural gas (Egoli gas)
- Electro-chemical process, no moving parts
- 25 year design life, minimal servicing
- 50% energy efficient
- Further 30% energy to be captured for heating building
- Levelised energy cost cheaper than municipal supply
- Collaborative project, CoM, DTI, Mitochondria, Fuji, Egoli Gas, demonstration of platinum beneficiation

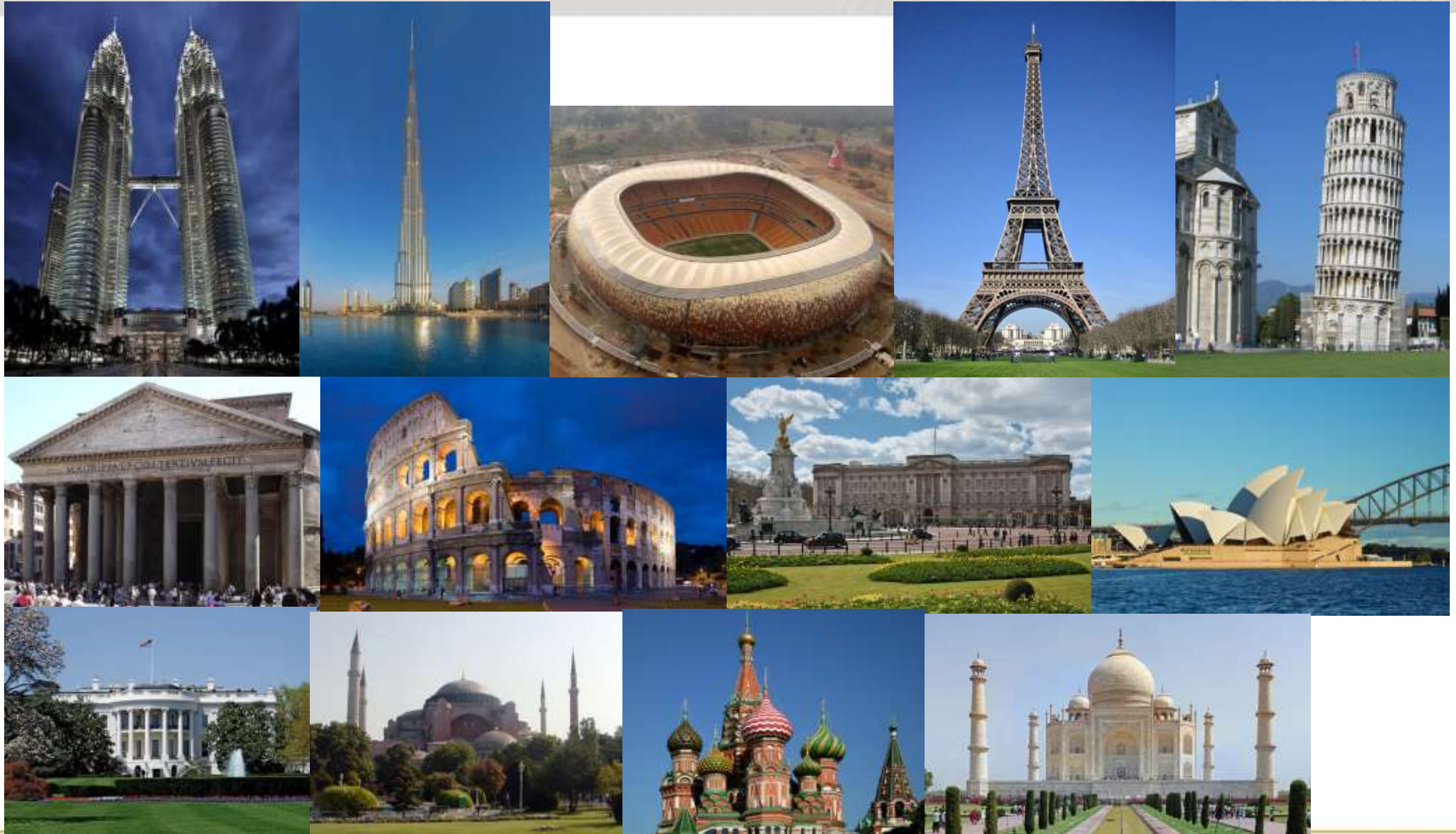
Metals and minerals are the building blocks for smart technologies



- **Copper (16 grams) ¹**
- **Silver (0.35 grams) ¹**
- **Gold (0.034 grams) ¹**
- **Palladium (0.015 grams) ¹**
- **Platinum (0.00034 grams) ¹**
- **Ceramic magnetic switches containing rare earths ²**
- **Indium²**
- **Titanium dioxide ²**
- **Indium tin oxide ²**

- ¹ source – USGS <http://pubs.usgs.gov/fs/2006/3097/>
- ² source – NRC critical minerals report

The world's famous buildings would not have been possible without Mining



Even a Wind Turbine uses a significant amount of metals and minerals



- **335 tons of steel**
- **4.7 tons of copper**
- **13 tons of fiberglass**
- **3 tons of aluminum**
- **1,200 tons of reinforced concrete**

Even the cosmetics and makeup are made from minerals



- Talc
- Mica
- Kaolin
- Calcite
- Titanium dioxide
- Zinc oxide

Even a bright smile, even comes from mining.....



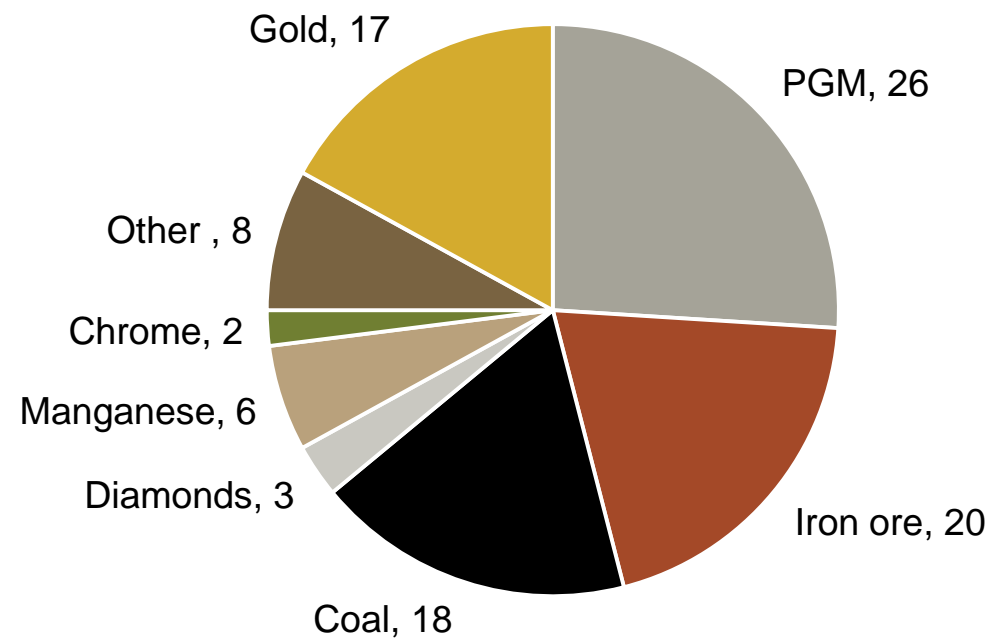
- **Silica**
- **Limestone**
- **Aluminum**
- **Phosphate**
- **Fluoride**
- **Titanium**
- **Mica**
- **Petroleum**

Mining matters to South Africa

In 2014, the South African mining industry contributed:

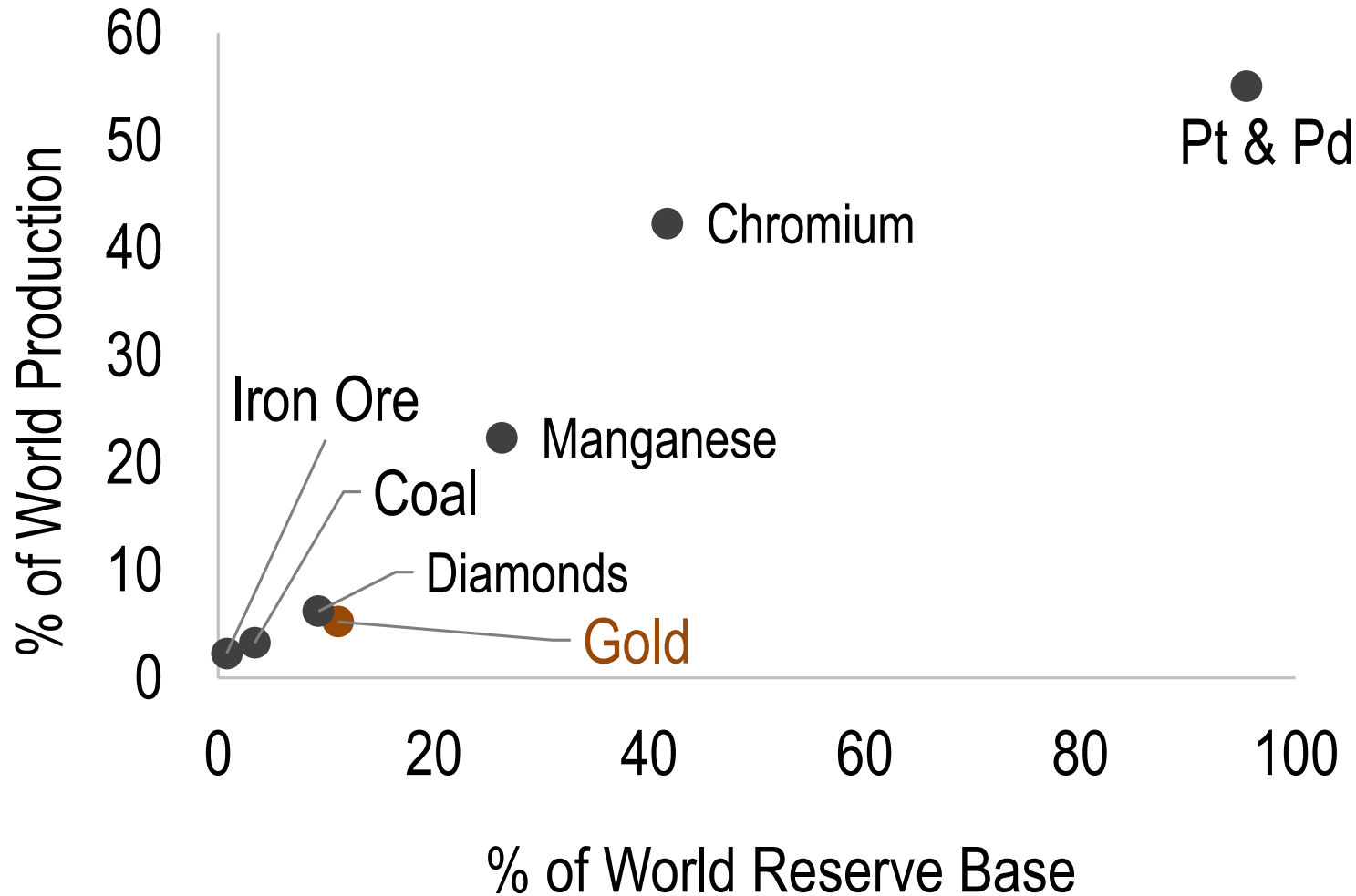
- 7.6% to GDP
- Around 15% to FDI
- 20% of private investment
- 1,4 million jobs
- 25% of exports

Sector contributions to mining minerals exports in SA (2014)



Source: Chamber of Mines estimates; StatsSA

Even though our market share of global commodity production and reserves has declined



Source: SA Chamber of mines, SAIMM

SA mineral exports at 26% of merchandise exports



Source: SA Chamber of mines, StatsSA

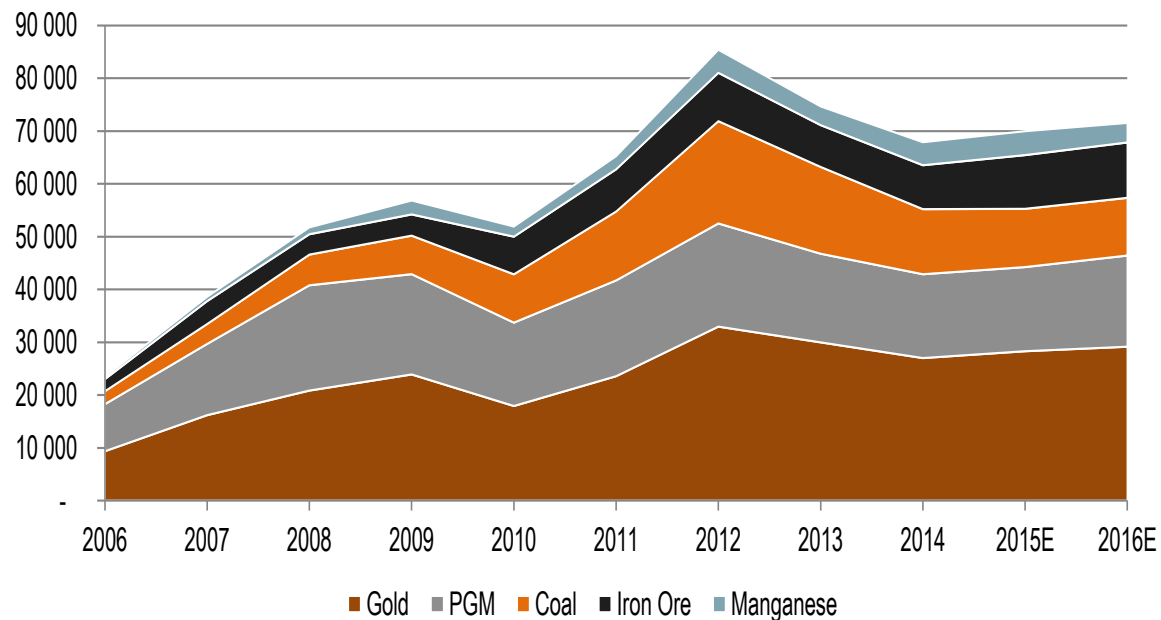
SA Mineral sales and exports per commodity



	Local sales	Export sales	Total sales	Export vs total	Contribution to total sales	Contribution to export sales
	Rm	Rm	Rm	%	%	%
Gold	2,367	44,438	46,805	95	12	17
PGM	10,641	66,861	77,502	86	21	26
Iron Ore	5,748	52,957	58,705	90	16	20
Coal	54,733	46,721	101,455	46	27	18
Diamonds	8,871	7,731	16,601	47	4	3
Manganese	1,632	14,507	16,139	90	4	6
Chrome	7,775	5,835	13,610	43	4	2
Other	24,379	20,144	44,522	45	12	8
Total	116,145	259,194	375,339	69	100	100

Significant capital investment continues

Capital expenditure by SA mining companies by commodity* (R million)

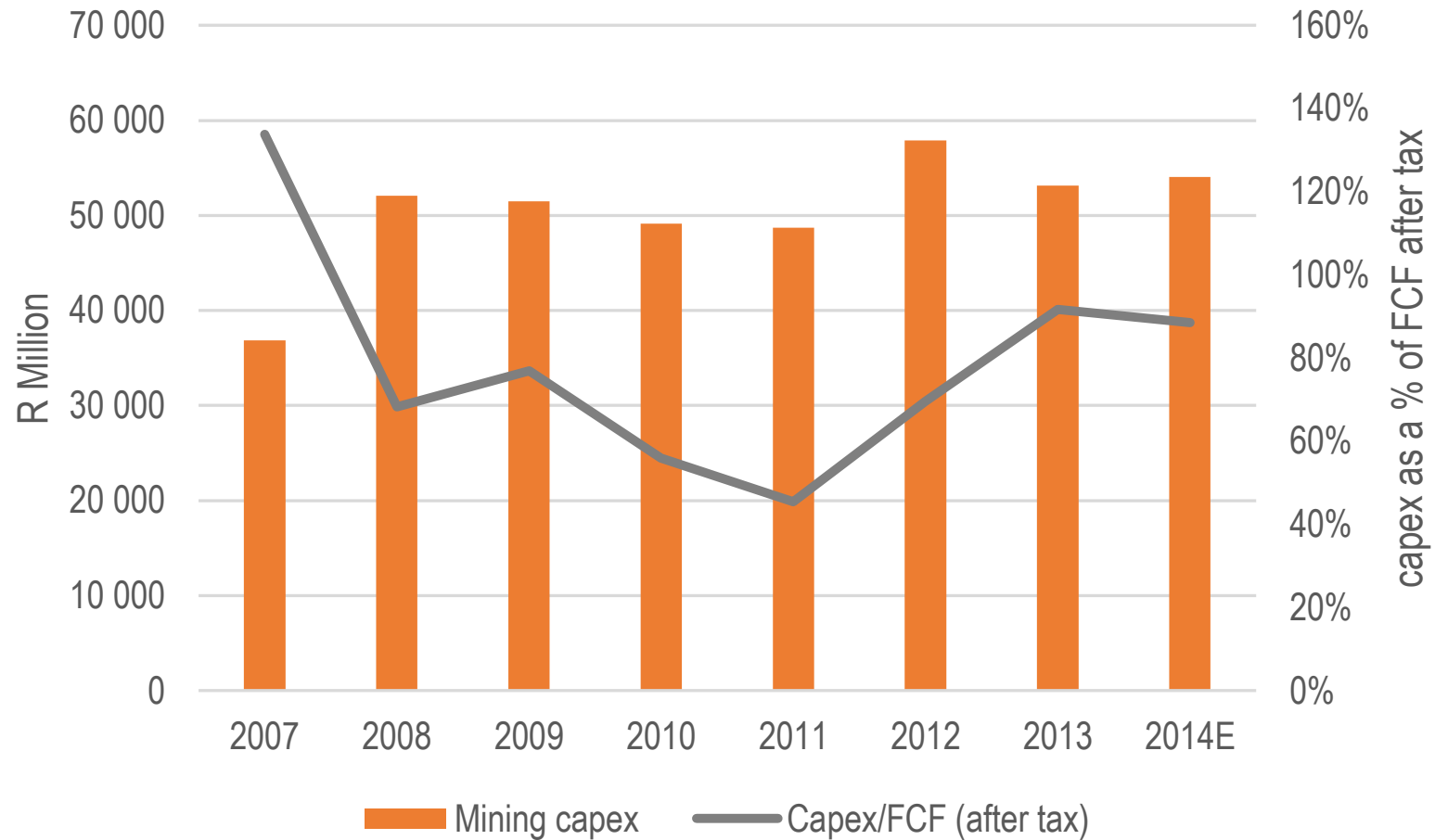


Capital spend on SA growth projects ^

	R million (>5 years)	Split (%)
Gold	9,507	14
PGM	7,676	11
Coal	28,580	41
Diamonds	24,300	35
Total	70,063	100

Source: SBG Securities, Company reports, Chamber of mines estimates, based on top 3-5 largest producers per sector; estimated 2014/2015

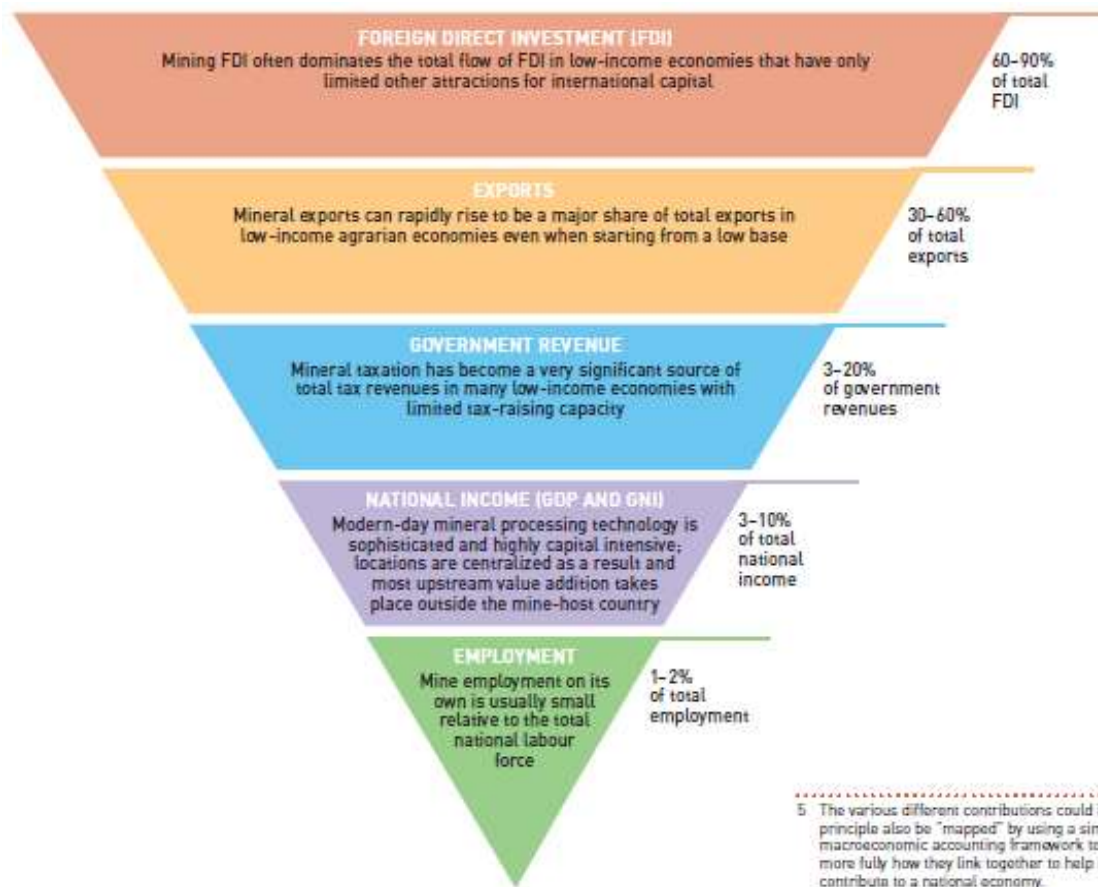
... despite reduced cash-flows



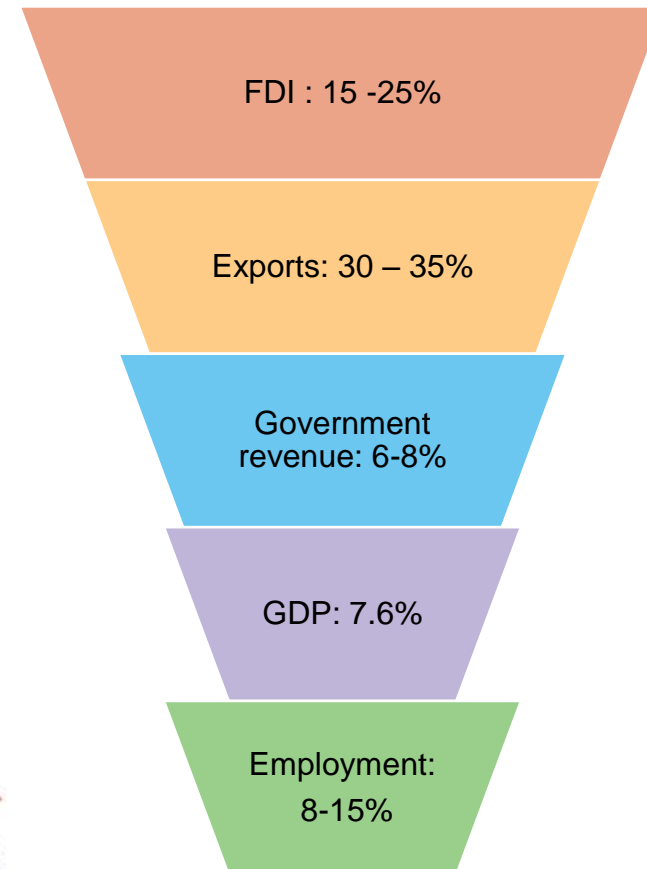
Source: SA Chamber of mines, Stats SA

SA mining contribution on upper end compared to global peers – ranked 5th by ICMM

Low and middle income nations globally



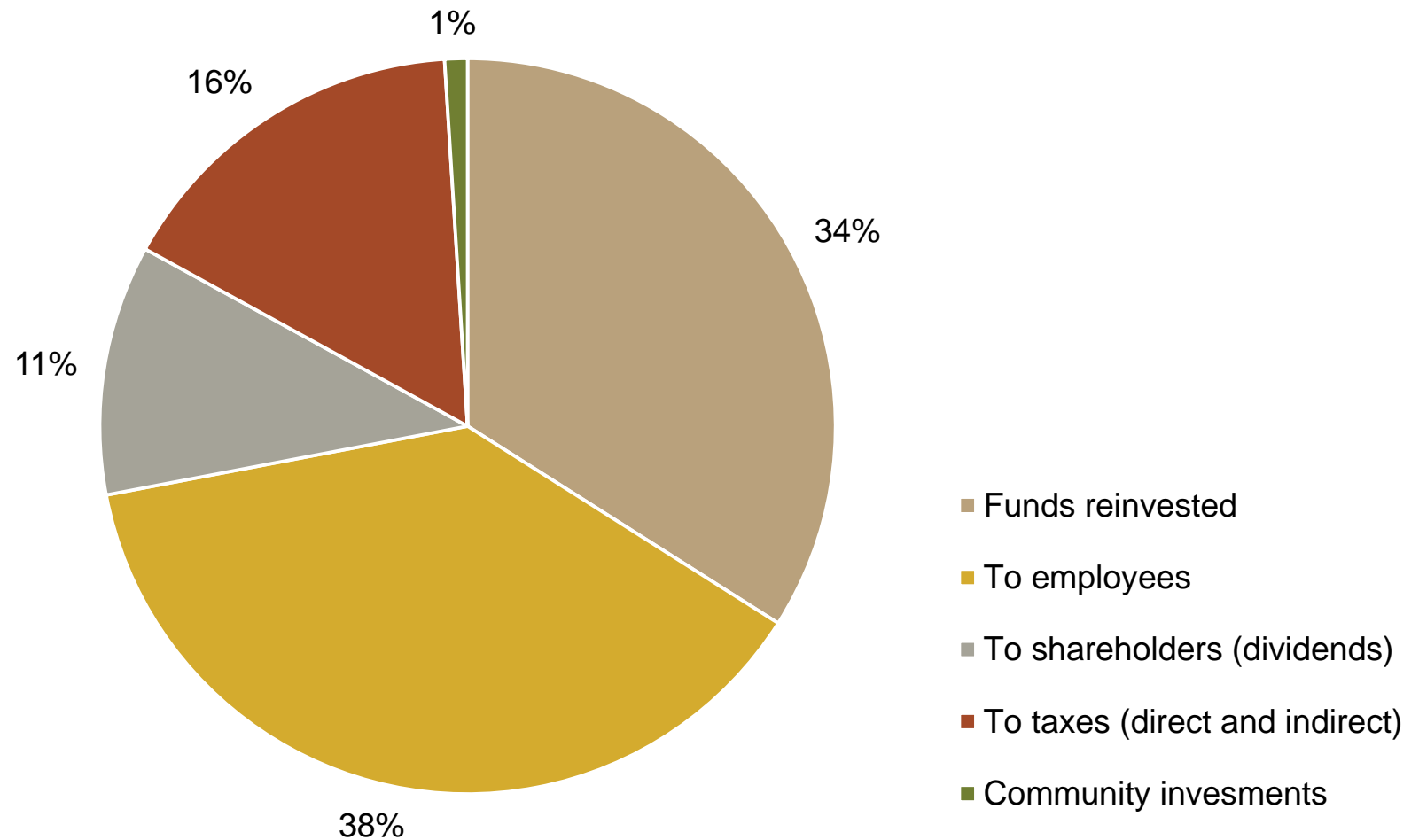
South Africa



Source: ICMM (various years) and OPM (various years)

SA mining value add

Mining sector value add (2014) %

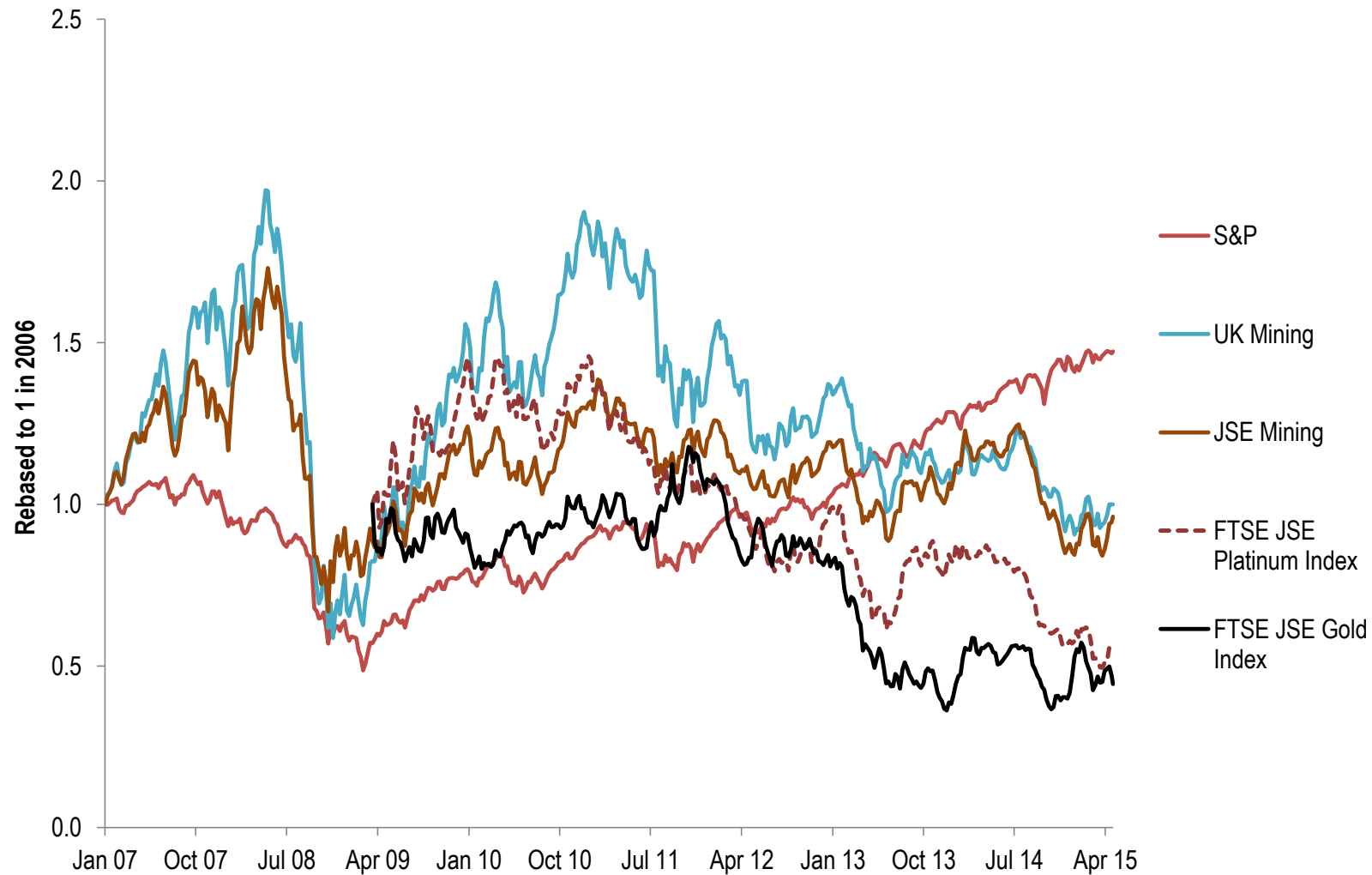


Source: PwC analysts

But

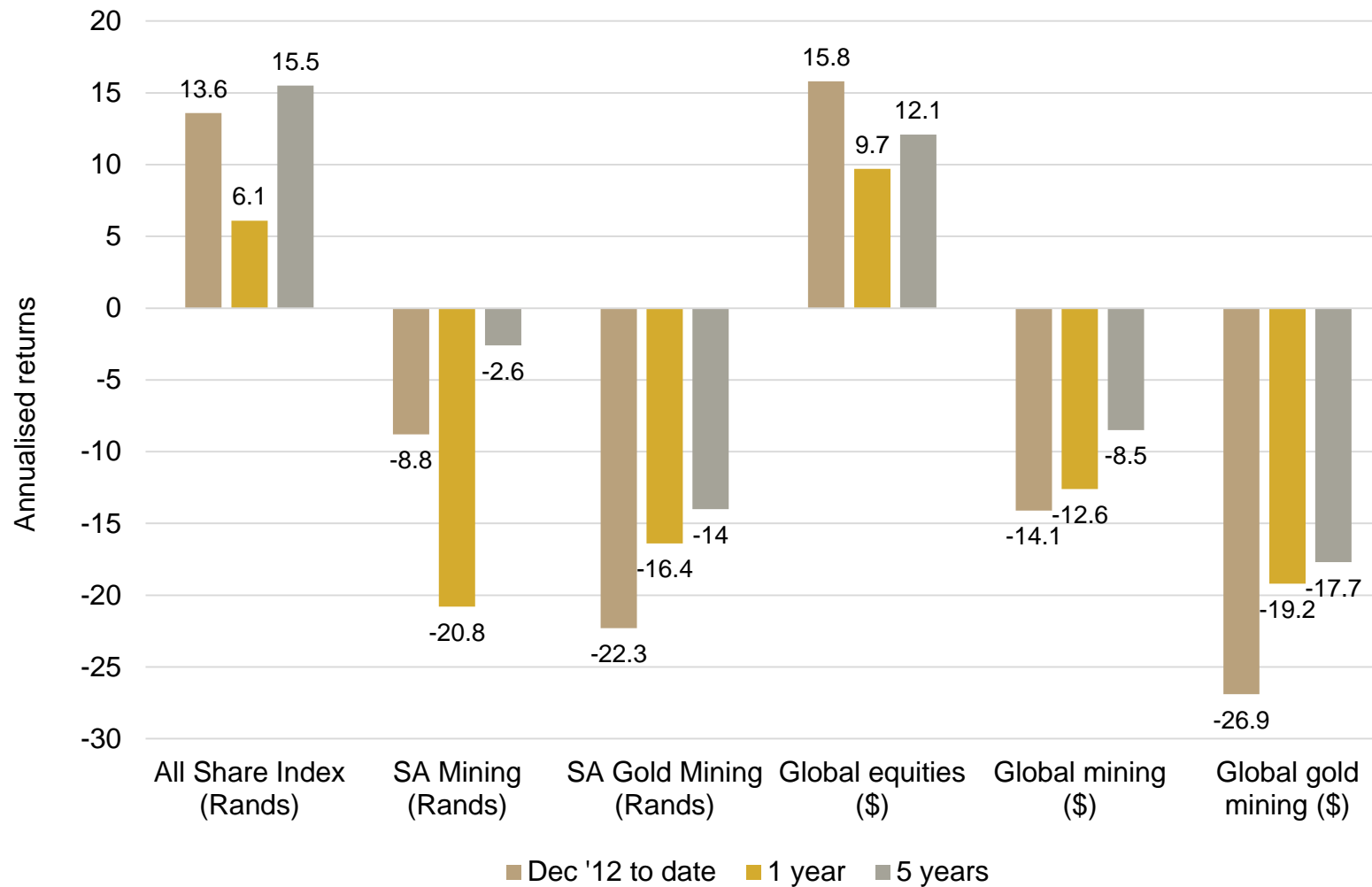


Fall in mining equities globally – SA PGM and gold sectors show value loss



Source: SA Chamber of mines, SBG Securities, Bloomberg

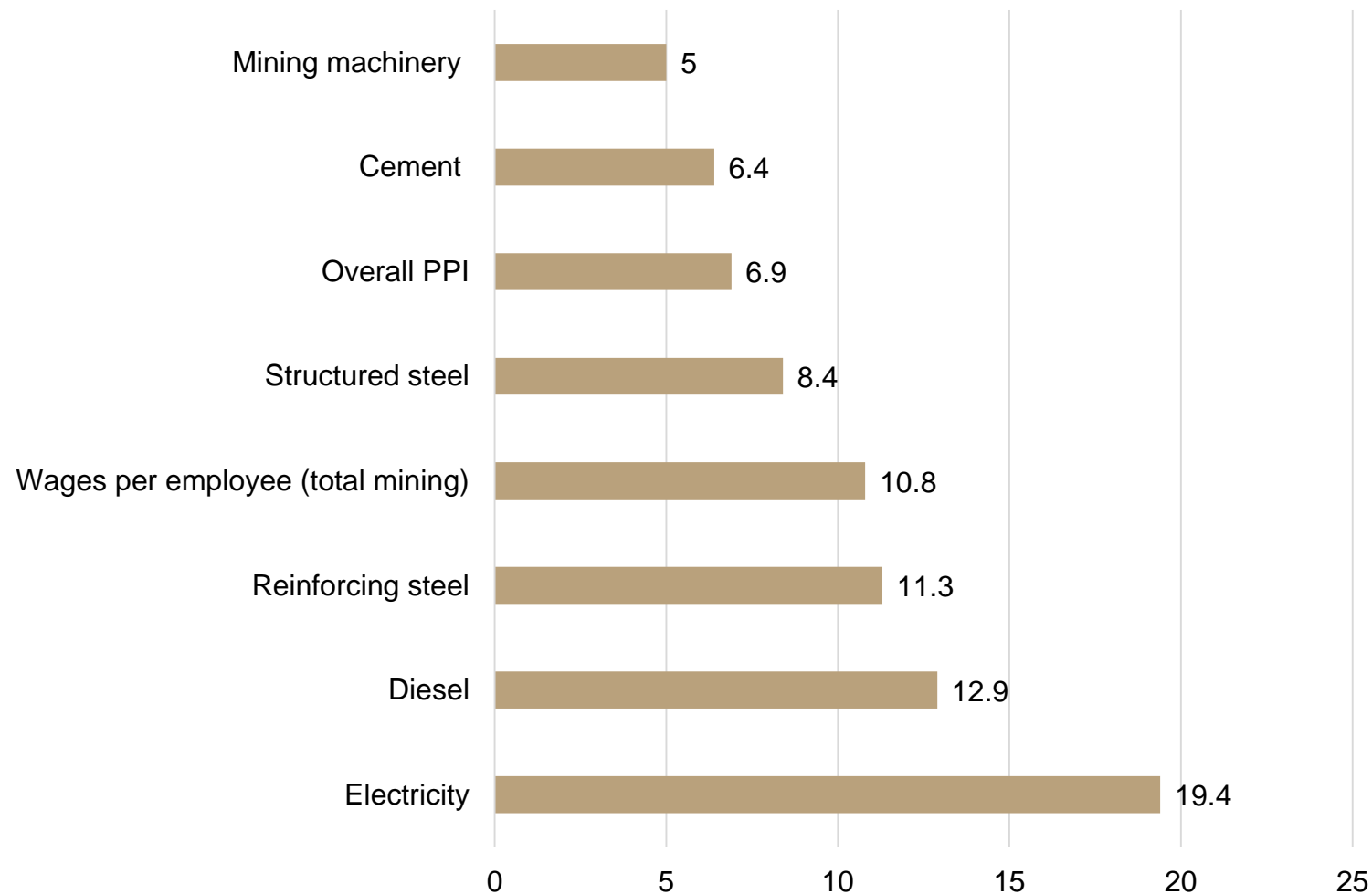
Global mining equity sector context – similar SA underperformance



Source: SA Chamber of mines, SGB Securities, Bloomberg, Jul 2015

Inflation input costs remain higher than revenue drivers (Rand commodity prices)

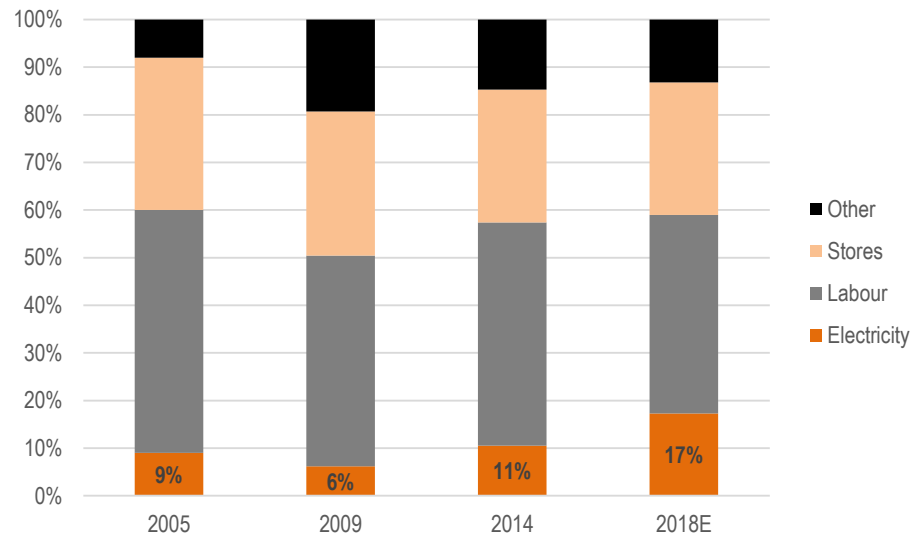
Cost inflation affecting the mining sector (Annual average increase 2008 to 2014)



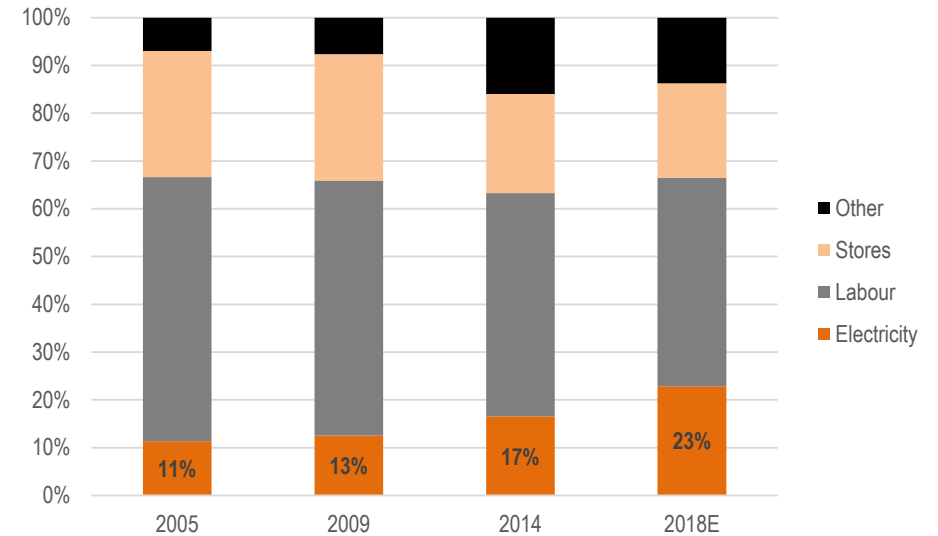
Source: Stats SA, CoM

Electricity and wages in relation to total costs

Cost components for the PGM sector



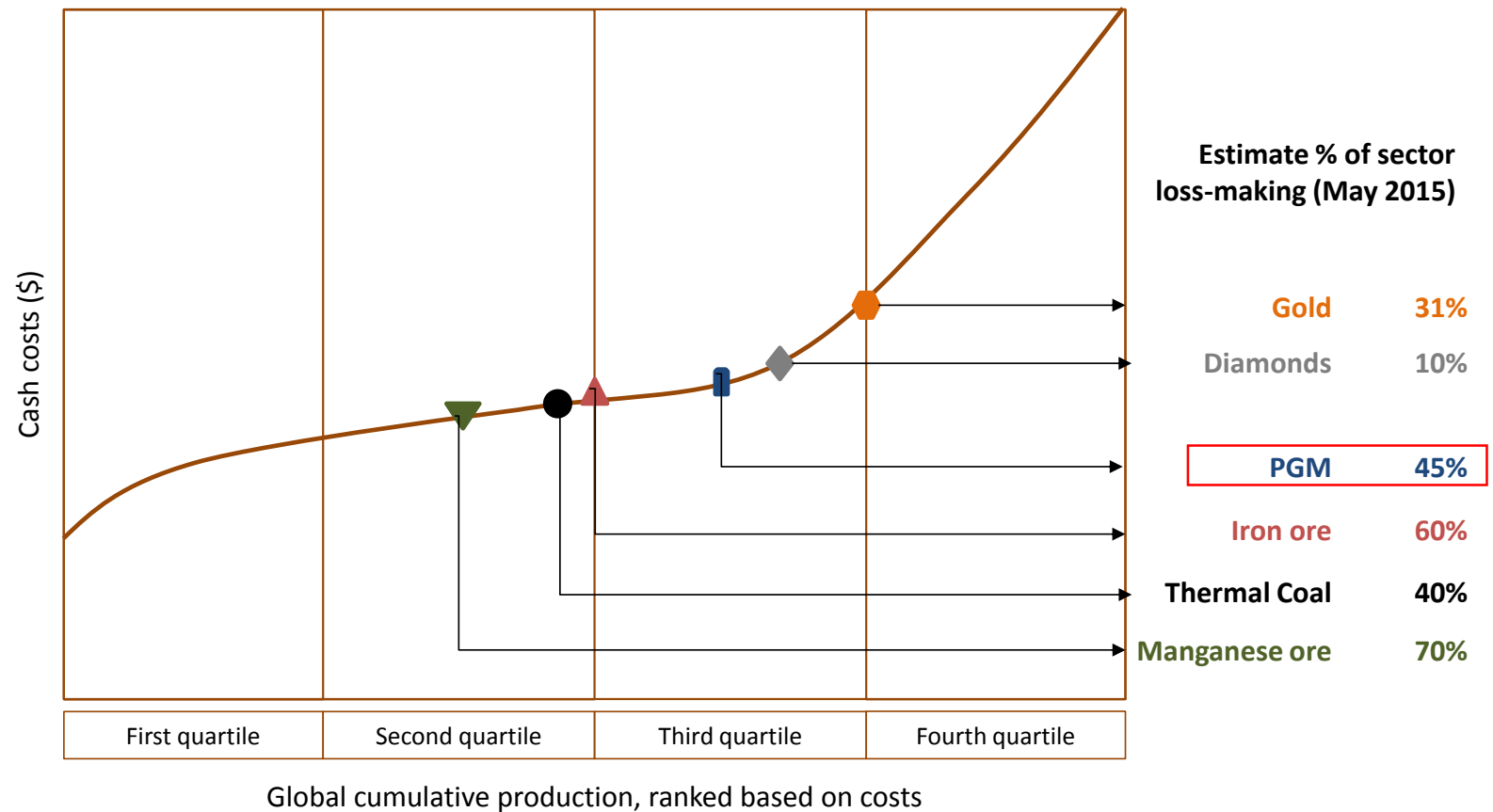
Cost components for the Gold sector



Source: Chamber of mines member estimates, *PGM sector proxy represented by 80% of production, ^Chamber members

The SA mining sector cost competitiveness

Illustrative SA commodity mining cost curve (2015)



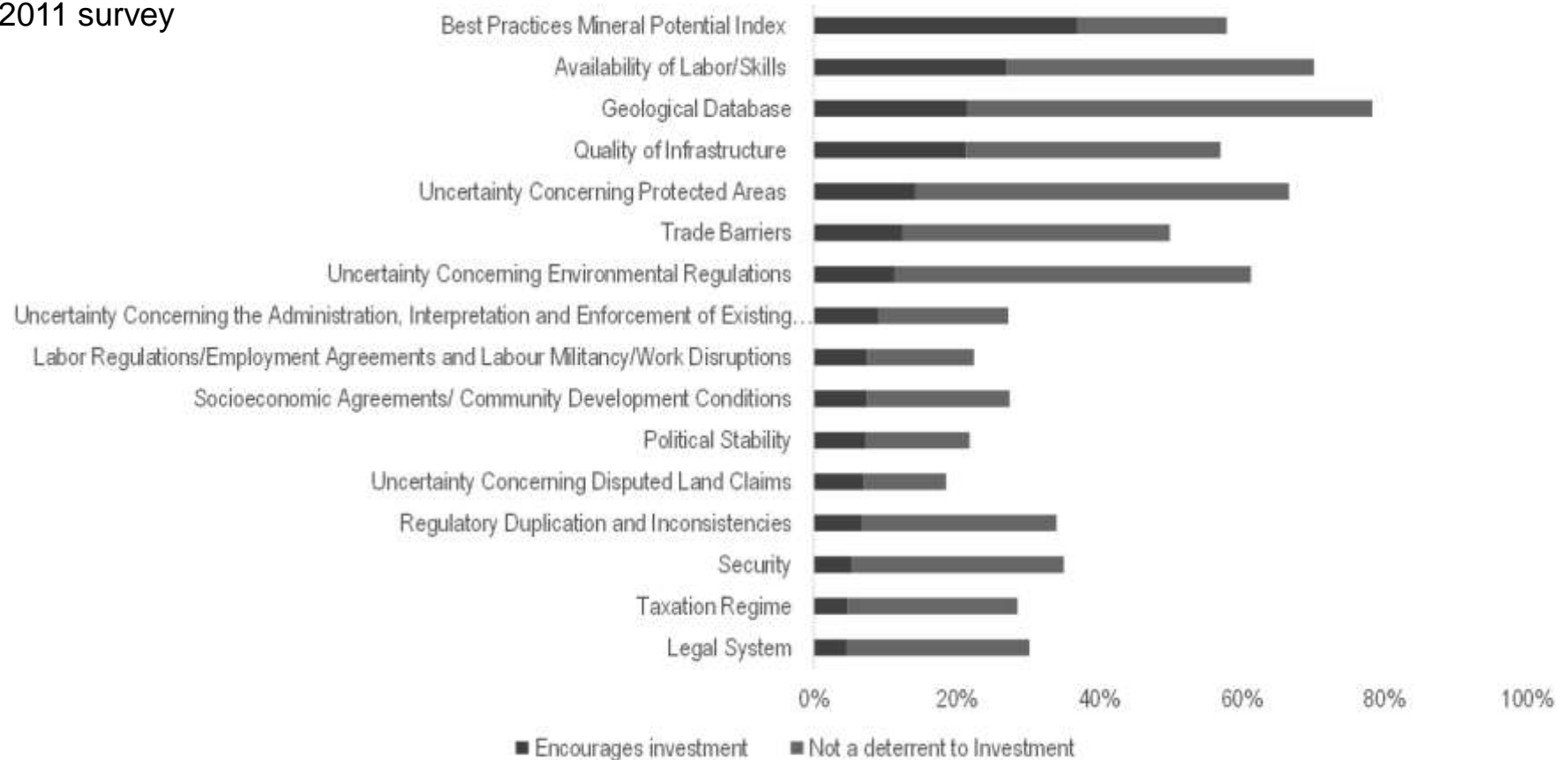
Source: Chamber of Mines member estimates, bank analyst estimates

South African mining sector: the challenges



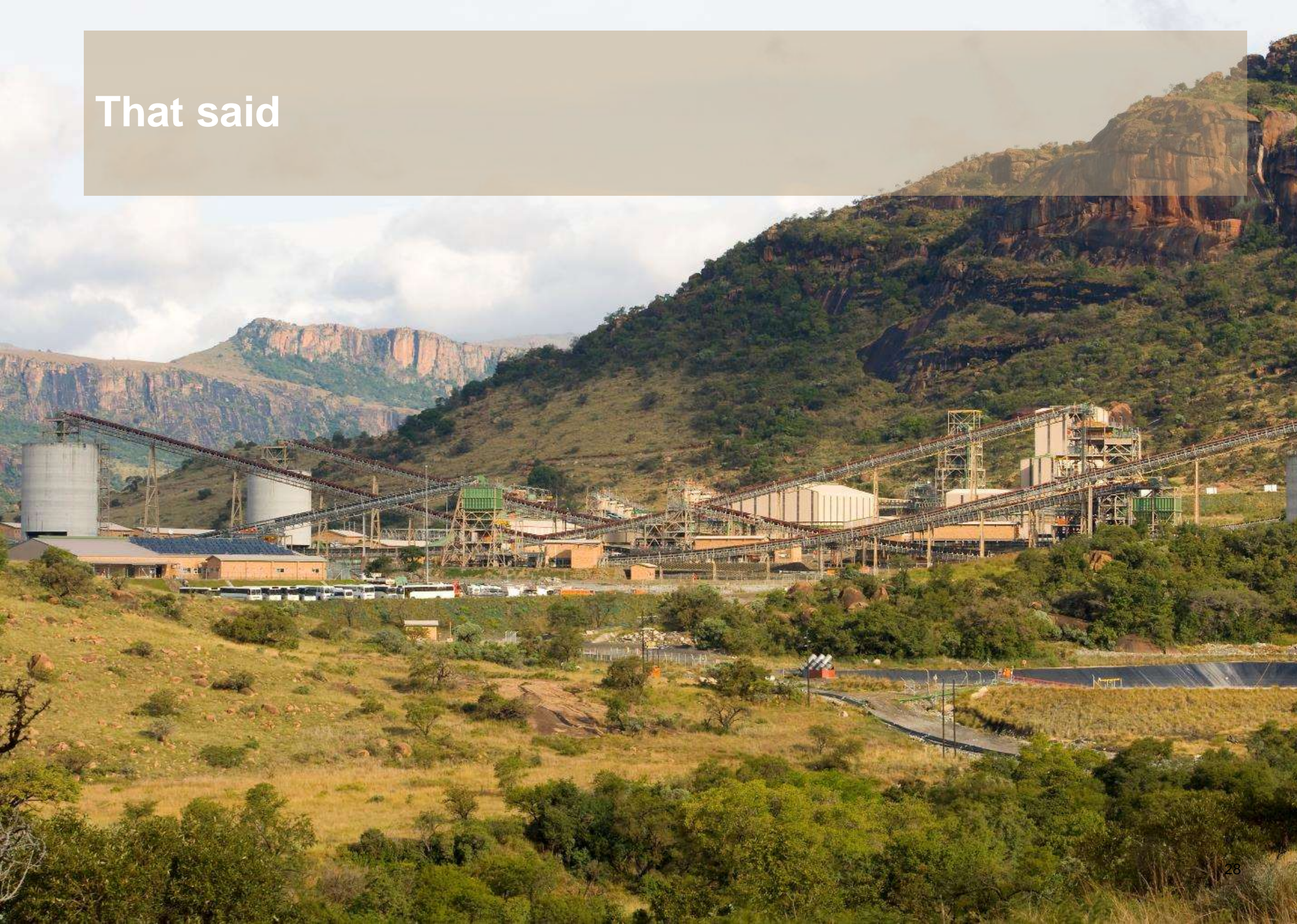
Mining needs a stable, predictable and competitive policy and regulatory environment

South Africa ranked 64/122
in the 2014 Fraser survey...
this is 52nd percentile, down from
76th percentile in 2011 survey

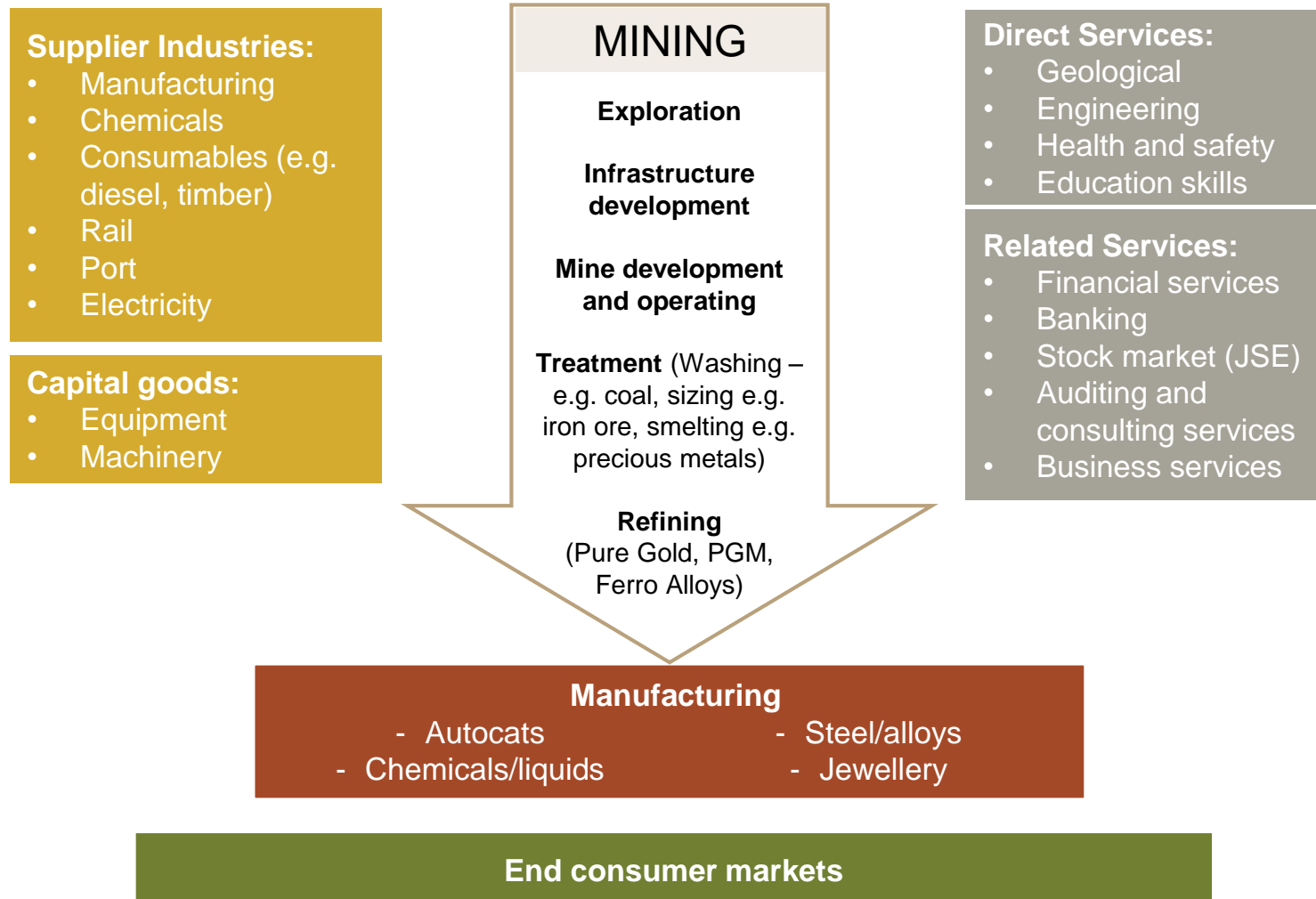


Source: Fraser Institute Survey of Mining Companies 2014

That said



Mining matters for the growth, development and transformation of South Africa



More than half of NDP priorities can be tackled by mining

Economy and employment ✓

Economy infrastructure – The foundation of social and economic development ✓

Environmental sustainability – An equitable transition to a low-carbon economy ✓

An integrated and inclusive rural economy ✓

Positioning South Africa in the world ✓

Transforming human settlement ✓

Improving education, training and innovation ✓

Promoting health ✓

Creating a successful mining sector



More effective problem solving partnership between government, business and organised labour



Regulatory and legislative environment that is stable, predictable and competitive



Stable and constructive labour relations environment and better social license to operate



Access to available, efficient and cost effective infrastructure (electricity, rail)



Solutions to improve productivity (next generation mining) and reduce cost pressures

More effective problem solving partnership between government, business and labour



Mining Phakisa LAB

- All players to work together and present an action plan for growth and transformation which encourages investment
- Driven by concrete plans to resolve challenges

MIGDETT tripartite revived (Mining Industry Growth, Development and Transformation Task team)

- Tripartite between Government, labour and business (Chamber and SAMDA)
 - Mining Charter: Promoting certainty on Charter
 - Job saving task team: 10 interventions aimed at promoting sustainable mines and employment
 - PGM task team: stimulating long term demand

Regulatory and legislative environment that is stable, predictable and competitive



Presidential framework agreement:

- In Aug 2013, stakeholders developed a “Framework Agreement for a Sustainable Mining Industry” under the leadership of the country’s Deputy-President. Now being driven by President Zuma.
- The focus of Mining dialogue process is to:
 - Stabilise industrial relations environment. Promote law and order. Investigate key negative issues in migrant labour system (and propose solutions)
 - Get mining industry back on track - investment and growth per

NEDLAC task team – minimum wage and strike action committee

- Agreed terms of reference, research underway
- Good progress being made

Progress on the policy challenges



MPRDA amendment bill

- Amendments in Parliament

Davis Tax Commission – response to interim report

- Retention of mining royalty model; rejection of the notion of a resource rents tax

Section 54 safety stoppages

- Speeding up development of implementation policy pertaining to Section 54 implementation

Environmental licensing

- New “One Environmental system” in place. Real progress made

Carbon tax

- Call for delay

Stable and constructive labour relations environment and social licence to operate



Presidential framework agreement:

- Stabilise industrial relations environment.
- Get the mining industry back on track from an investment and growth perspective.

NEDLAC task team – minimum wage and strike action committee

- S18 representation and secret strike ballots on the agenda

Farlam report on Marikana Industry in process of implementing key learnings

Gold and Coal wage negotiations

- 3 year agreements for gold
- 2 year wage agreement in coal (after short strike)
- Platinum negotiations in 2016

Access to available, efficient and cost effective infrastructure (electricity, rail)



Electricity supply disruptions and costs – multiple initiatives

- Eskom expecting stability for 12 months
- 5 gigs renewables and 6 gigs gas/base-load contracted in by DOE
- Lid on big price increases necessary

Economic transport regulator

- Centralised 'NERSA' equivalent for transport, road, air and rail infrastructure
- Holistic cost impact assessment welcomed
- Pricing transparency and consistency key

Water & environment

- Water and Sanitation Economic Regulator-transparent and uniform pricing of water
- Concern re inclusion of legacies (AMD) in pricing strategy
- Incentives for Water Conservation and Water Demand Management efforts by various users

Solutions to improve productivity (next generation mining) and reduce cost pressures



Modernisation Possible Future Scenarios (20 yrs)



High local content

Where we are

Stay as is: Conventional Mining

- Health and safety plateaus
- Rapidly depleting mineral wealth
- Lower production and higher costs
- Rapidly declining jobs
- 55% portable skilled labour in mining
- GDP growth opportunity lost
- Lack of Foreign Direct Investment (FDI)

Low mechanisation

Early 1900s

Modernised: Continuous, Mechanised Mining with Local Machines

Where we want to be

- Zero Harm:** Remove people from high-risk areas
- SA's Wealth:** >50% increase in PGM tonne-years; >20% for gold tonne-years
- Growth:** >10% in GDP growth gained (losses prevented)
- Employment:** >10% increase in PGM job-years; >5% for gold job-years
- Exports:** >10% in exports gained (losses prevented)
- Govt revenue:** >5% in revenue gained (losses prevented)
- Skills:** 90% portable skilled labour in mining
- Investment:** Higher investment potential in optimal production at lower costs

High mechanisation

Continuous, Mechanised Mining with Imported Machines

- As above, but with:
- Higher cost of mining
 - Lower economic growth
 - Reduced employment
 - Enhanced imports
 - Less portable skills

Vision for South African mining industry

Government and trade unions:
proud of and fully supportive of
the mining industry and
acknowledge industry as
important for the country

Investors regard industry
as a good investment
destination

**CONSTRUCTIVE PARTNERSHIPS
BUILT ON TRUST**

Workforce,
transformed, productive,
fair wages and non-
discriminatory, safe and
healthy workplaces

Management not only
focus on profits, but
provide decent jobs, play
positive role in mining
communities and
sensitive to environment

Key exporter
Key earner of foreign
exchange
Key taxpayer
Creator of decent jobs
Developer of skills
Key contributor to economy



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