



# tharisa

DISCOVER DEVELOP DELIVER **DIVERSIFY**

THIS IS THARISA

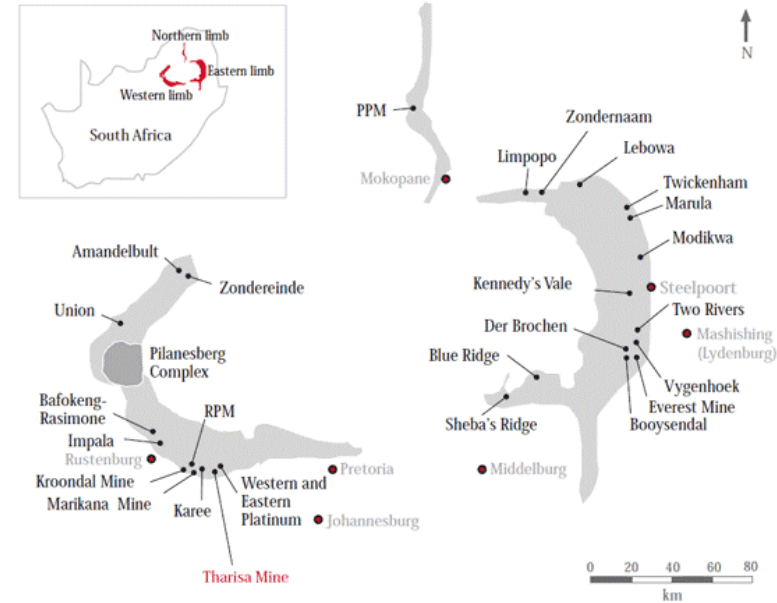
January 2021

**INVESTING IN SUSTAINABILITY**

THS:LSE • THA:JSE

# WHO WE ARE

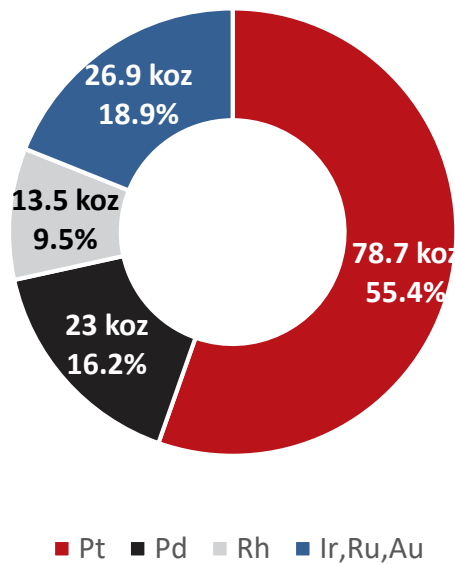
- Leading PGM and chrome co-producer
- Located in the heart of PGM and chrome country
- South Africa is host to over two-thirds of the world's PGMs & chrome
- Close to infrastructure, road, rail and power
- Tharisa is a product of the new mining code - fully compliant
- Mechanised, open pit operation with a highly skilled workforce
- Drive to add value to the product we mine and capture more margin
- R&D team have developed exposure to the chemical chrome market, Vulcan fine chrome recovery technology, applications for chrome and new smelting opportunities in the PGM market



# HOW IS THARISA POSITIONED

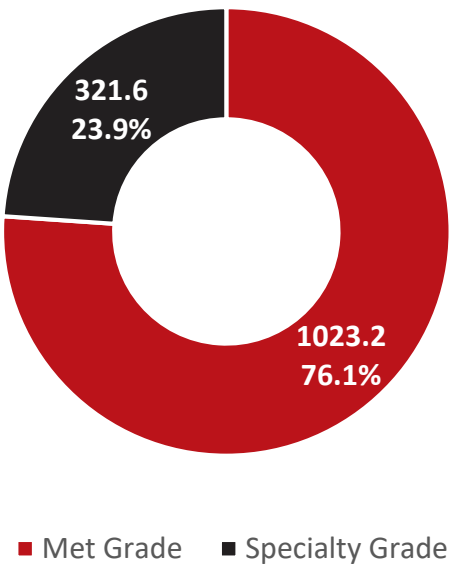
- Sixth largest listed South African PGM producer
  - 142 100 ounces per annum of PGM
- Tharisa position in terms of global demand
  - ~1.3% of platinum demand
  - ~0.3% of palladium demand
  - ~2% of rhodium demand

THARISA PRILL SPLIT



- Fourth largest South African Chrome Producer
  - 1 344 800 tonnes of chrome per annum
  - Provides China with 10% of all its chrome concentrate
  - One third specialty and foundry grade chrome
  - Largest global chemical grade chrome producer
  - Specialty chrome market trades at a premium

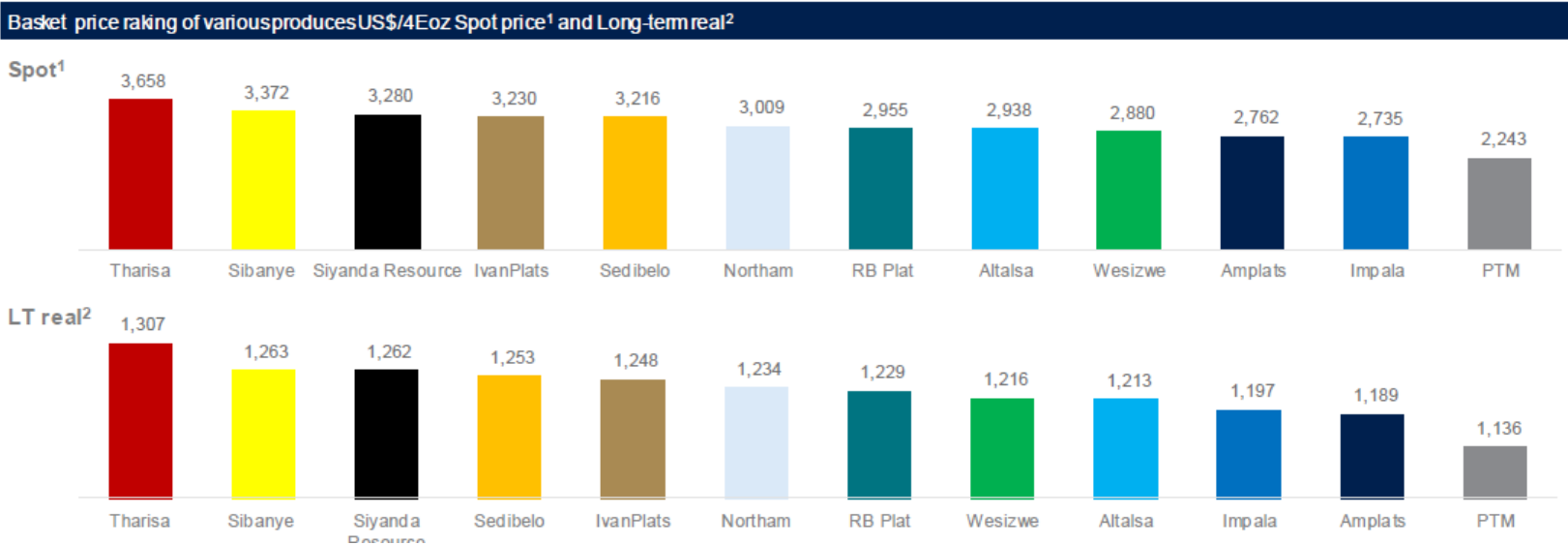
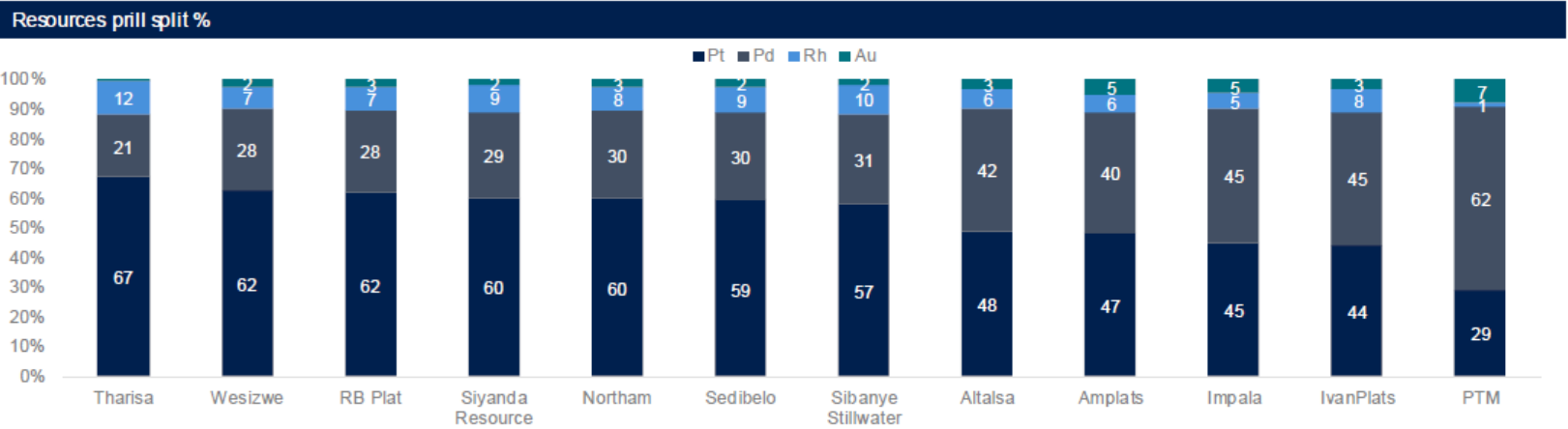
CHROME PRODUCTION FY2020 (kt)



# HOW IS THARISA POSITIONED – ALL ABOUT THE PRILL

## Resource – Prill spilt and basket price

Tharisa's prill split favour's Pt & Rh and therefore ranks attractively on current and future basket price assumptions



Source: Investec,  
(1) Jan22, 2021 (2) Based on  
analyst estimates as of Q4 2020

# SAFETY AND SUSTAINABILITY

## LTFIR

0.09

Lost Time Injury Frequency Rate  
30 September 2020

## FATALITY FREE YEARS

5+

Achieved: 28 September 2020

## ACHIEVEMENTS

4 million Fatality Free Shifts

Tharisa Minerals - achieved: 19 June 2020

365 days LTI free

Mining Production and Genesis Plant

5 years LTI free

Tharisa Laboratory and R&D

58

Engineering Learnerships

40

Interns and Graduates

209

Adult Education and Training  
learners



# A RESOURCES COMPANY FOR THE FUTURE

Committed to climate change interventions and the Paris Accord

- Developing a roadmap with our suppliers and stakeholders that will see a reduction in carbon emissions by 2030
- Solid governance structures – value of accountability and transparency
- Responsible corporate citizenship
- Subscribe to Equator Principles
- Upskilling and development of our employees – human resource development, learnerships, internships, bursaries, cutting edge training centre
- Committed to empowering and developing the communities close to our operations including the provision of community services
- Enterprise development and local economic development, environmental management and projects
- Adult Education and Training, community youth mathematics and science programmes
- The Tharisa Thusanang Wellness programme has been running since December 2011 - the programme provides support, counselling and training for employees, their families and the community about their lifestyle, wellbeing and work environments



# FY2020 PRODUCTION HIGHLIGHTS

SPOT PGM BASKET PRICE  
≈US\$3 000/oz

## REEF MINED

4.97 Mt

up 7.6%

(2019: 4.62 Mt)

## PGM PRODUCTION

(5PGE+Au)

142.1 koz

up 1.7%

(2019: 139.7 koz)

## CHROME CONCENTRATE PRODUCTION

1.34 Mt

up 3.9%

(2019: 1.29 Mt)

## STRIPPING RATIO\*

12.1 m<sup>3</sup>:m<sup>3</sup>

up 45.7%

(2019: 8.3 m<sup>3</sup>:m<sup>3</sup>)

## PGM PRICE

US\$1 704/oz

up 57.6%

(2019: US\$1 081/oz)

## CHROME CONCENTRATE PRICE

US\$140/t

down 13.6%

(2019: US\$162/t)

\*LOM stripping ratio of 9.8 m<sup>3</sup>:m<sup>3</sup>

# FY2020 FINANCIAL HIGHLIGHTS

AVERAGE EXCHANGE RATE ZAR:US\$  
16.2  
(2019: 14.4) 12.5%

## REVENUE

US\$406.0 m

up 18.4%  
(2019: US\$342.9 m)

## OPERATING PROFIT

US\$87.6 m

up 262.0%  
(2019: US\$24.2 m)

## EBITDA

US\$113.4 m

up 119.8%  
(2019: US\$51.6 m)

## PROFIT BEFORE TAX

US\$75.8 m

up 576.8%  
(2019: US\$11.2 m)

## EPS

US 16.2 cents

up 305.0%  
(2019: US 4.0 cents)

## OPERATING CASH FLOW

US\$73.0 m

up 4.4%  
(2019: US\$69.9 m)

## PROPOSED DIVIDEND

US 3.5 cents

up 367.0%  
(2019: US 0.75 cents)

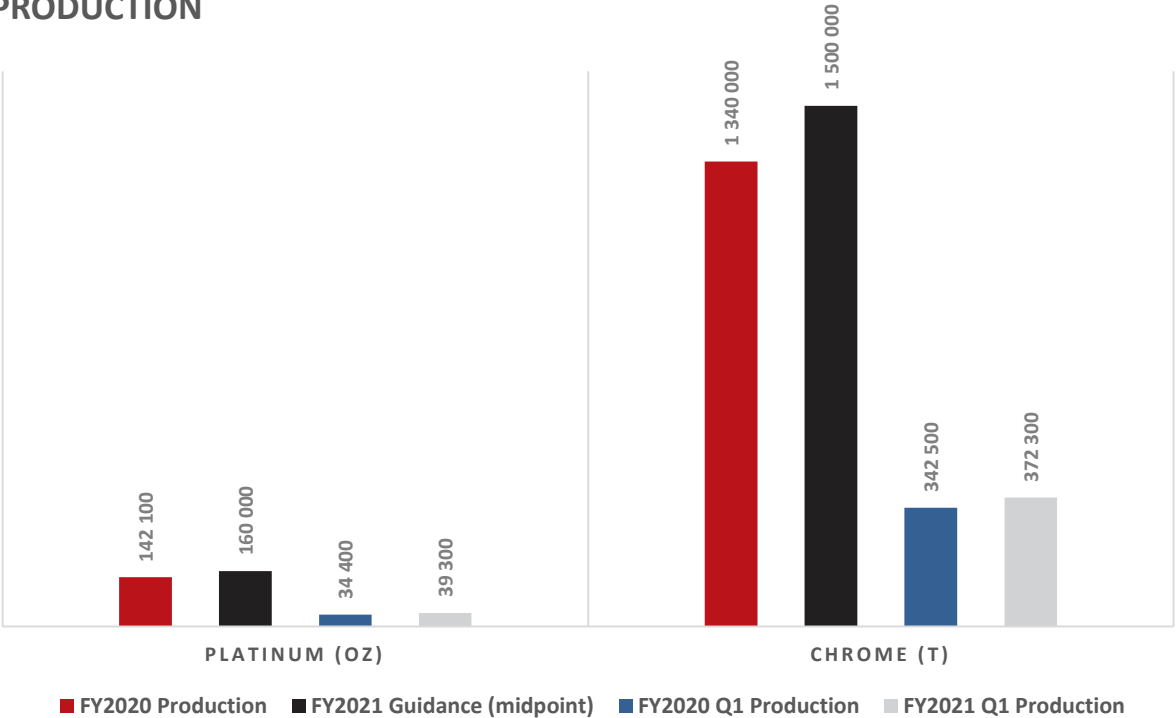
## RETURN ON INVESTED CAPITAL (ROIC)

18.8%

up 261.5%  
(2019: 5.2%)

- Strong safety record maintained with an LTIFR of 0.08 per 200 000 man hours worked
- PGM production up 14.2% YoY on a 6E basis to 39.3koz vs 34.4koz in Q1 FY2020 and in line with 40.5koz in Q4 FY2020
- Chrome concentrate production (excluding third party) up 8.7% YoY to 372.3kt vs 342.5kt in Q1 FY2020 and marginally stronger versus 370.8kt in Q4 FY2020
- Concluded a four-year Collective Wage Agreement until 30 June 2024
- On track for FY2021 production guidance of 155 koz to 165 koz PGMs (6E basis) and 1.45 Mt to 1.55 Mt of chrome concentrates
- COVID-19 remains a risk to the Company and our forecasts and guidance are premised on the current level of economic activity being permitted by government regulations
- Cash Balance and Debt Position**
  - Tharisa had a cash balance of US\$49.8 million at the end of the quarter and a total debt of US\$45.0 million (30/9/2020 US\$69.8m), of which US\$5.5 million is trade finance facilities, resulting in a positive net cash position of US\$4.8 million

## PRODUCTION



GUIDANCE FOR FY2021 OF 155 koz TO 165 koz OF PGMs (6E BASIS) AND 1.45 Mt TO 1.55 Mt OF CHROME CONCENTRATES

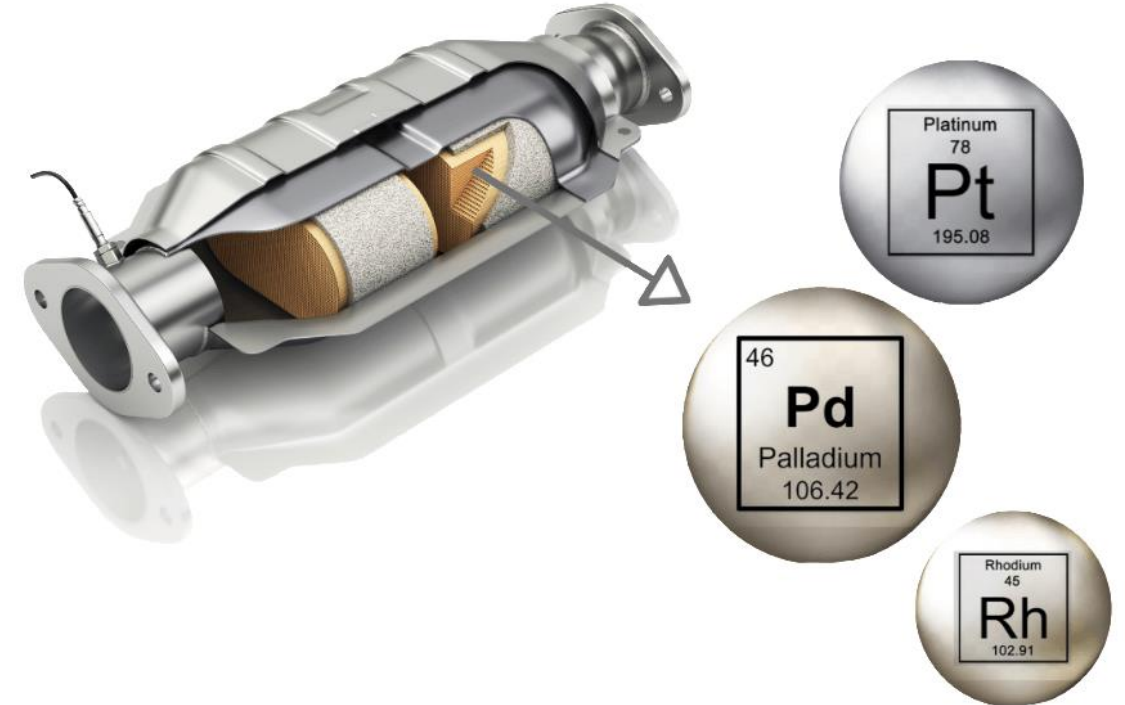
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OUR MARKETS

# THARISA & THE PGM MARKET

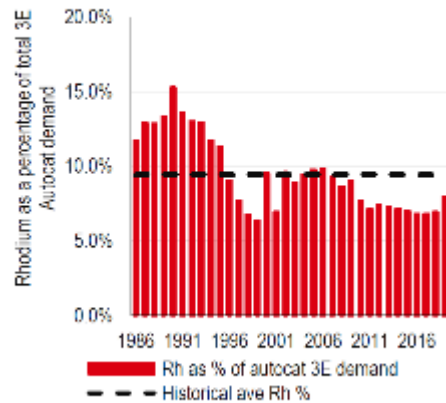
- Known for their purity, high melting points and unique catalytic properties
- Extremely resistant to corrosion
- With up to a quarter of all manufactured goods either containing PGMs or having had PGMs play a role in its production, PGMs are some of the most versatile and ubiquitous metals
- Used in a number of industrial applications including flat screens, medical equipment, hydrogen fuel cells and jewelry
- The versatility of PGMs continues to grow. For example, a US company, Lion Technologies, last month filed for a patent on a technology that if successful will see platinum replace the use of cobalt-nickel in electrical vehicle batteries



Source: [pgmrecoverysystems.com/](http://pgmrecoverysystems.com/)

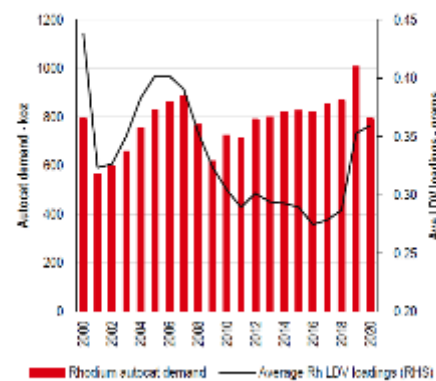
# HEADWINDS FROM DEEP MINES TO MEET GROWING RHODIUM DEMAND

Rhodium auto-catalyst demand relative to platinum and palladium at 7.9% is below the historical 9.4%



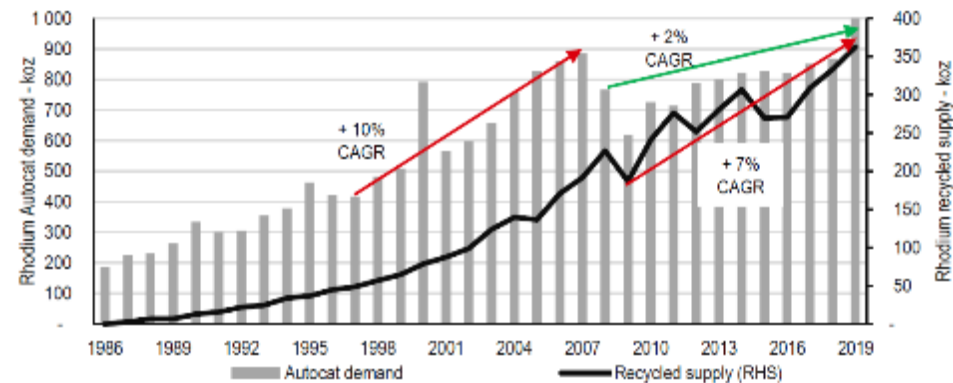
Source: Johnson Matthey, HSBC estimate (2020)

Average LDV rhodium loadings at 0.36 g/vehicle are below 2004-08 average of 0.39 grams despite tighter emissions



Source: Johnson Matthey, IHS Merit, HSBC estimate (2020)

Slower growth in rhodium loadings since 2008 is likely to lead to slower growth in recycled supply over the next 6 years



Source: Johnson Matthey

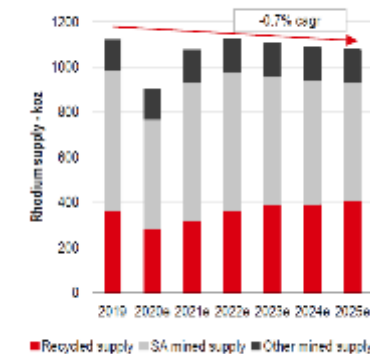
Source: HSBC, JM

## PRIMARY DEMAND OUTSTRIPPED BY PRIMARY SUPPLY

| Supply '000 oz              | 2017       | 2018       | 2019       |
|-----------------------------|------------|------------|------------|
| South Africa                | 611        | 618        | 624        |
| Russia                      | 78         | 69         | 68         |
| Others                      | 70         | 70         | 65         |
| <b>Total primary supply</b> | <b>759</b> | <b>757</b> | <b>757</b> |

| Gross demand '000 oz      | 2017         | 2018         | 2019         |
|---------------------------|--------------|--------------|--------------|
| Autocatalyst              | 834          | 883          | 1 008        |
| Other                     | 207          | 170          | 137          |
| <b>Total gross demand</b> | <b>1 041</b> | <b>1 053</b> | <b>1 145</b> |
| Recycling                 | (310)        | (335)        | (363)        |
| <b>Total net demand</b>   | <b>731</b>   | <b>718</b>   | <b>782</b>   |
| Movements in stocks       | 28           | 39           | (25)         |

Overall rhodium supply is expected to decline 4% or -0.7% CAGR over the next 6 years



Source: HSBC estimates, Johnson Matthey



## PALLADIUM

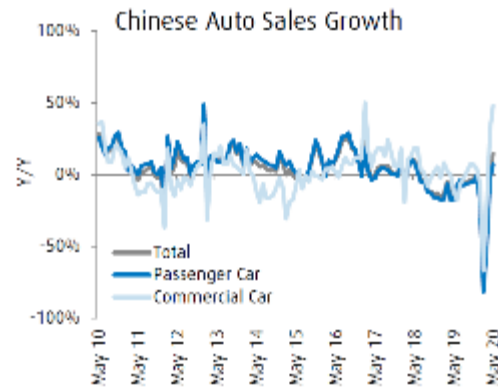
| Sector       | Percentage |
|--------------|------------|
| Autocatalyst | 83.5%      |
| Jewellery    | 1.2%       |
| Industrial   | 15.3%      |

|  |          |
|--|----------|
|  | PLATINUM |
|--|----------|

| Sector       | Percentage |
|--------------|------------|
| Autocatalyst | 34.0%      |
| Jewellery    | 24.3%      |
| Industrial   | 28.4%      |
| Investment   | 13.4%      |

- Growing car sales in China
- Tighter emission standards
- Continuing shortages

**Exhibit 1: Commercial Car Sales Growth Has Outstripped That of Passenger Cars...**



*Source: BMO, Johnson Matthey, WPIC, SFA Oxford*

# THARISA & THE CHROME MARKET

- Chrome is what makes steel stainless
- South Africa hosts 72% of the global chrome reserves
- Tharisa supplies China with 10% -12% of all its chrome concentrate
- Chrome for Tharisa had a 25% margin in the FY2020 year, despite the low prices



Source: ICDA, Roskill, Minerals Council

# CHROME – VITAL FOR STAINLESS STEEL

- Chrome is what makes *steel* stainless
- South Africa hosts 72% of the global chrome reserves
- Assuming a 5% CAGR in stainless steel:



Source: ICDA, Roskill, Minerals Council



Roskill ores and concentrates price forecast (US\$)

|      |        | Turkish lump | RSA primary | RSA UG2 | Spec grade | Chem grade |
|------|--------|--------------|-------------|---------|------------|------------|
| 2020 | Q1     | 188          | 148         | 130     | 204        | 177        |
|      | Q2     | 197          | 163         | 153     | 206        | 181        |
|      | Q3     | 190          | 158         | 137     | 206        | 180        |
|      | Q4     | 186          | 155         | 133     | 197        | 178        |
| 2019 | annual | 211          | 173         | 156     | 330        | 213        |
| 2020 | annual | 190          | 156         | 138     | 203        | 179        |
| 2021 | annual | 199          | 163         | 147     | 212        | 184        |
| 2022 | annual | 206          | 172         | 155     | 223        | 194        |
| 2023 | annual | 207          | 175         | 158     | 228        | 198        |
| 2024 | annual | 214          | 182         | 164     | 233        | 205        |



FINANCIAL PERFORMANCE

# SUSTAINABLE BUSINESS EVEN IN TIMES OF COVID-19

## CO-PRODUCT AND EXCHANGE RATE BENEFITS



Multiple revenue streams  
coupled with US\$  
revenues and ZAR costs

## HEALTHY CASH GENERATION



Exposure to the right  
commodities coupled  
with low operating costs  
generates strong cash  
flows

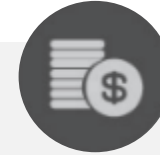
Consistent dividend payer

## CONTINUED INVESTMENT



Investment in SHE,  
people, infrastructure  
and growth projects,  
Vulcan, Karo

## ROBUST BALANCE SHEET



Low gearing

## LIQUIDITY MANAGEMENT



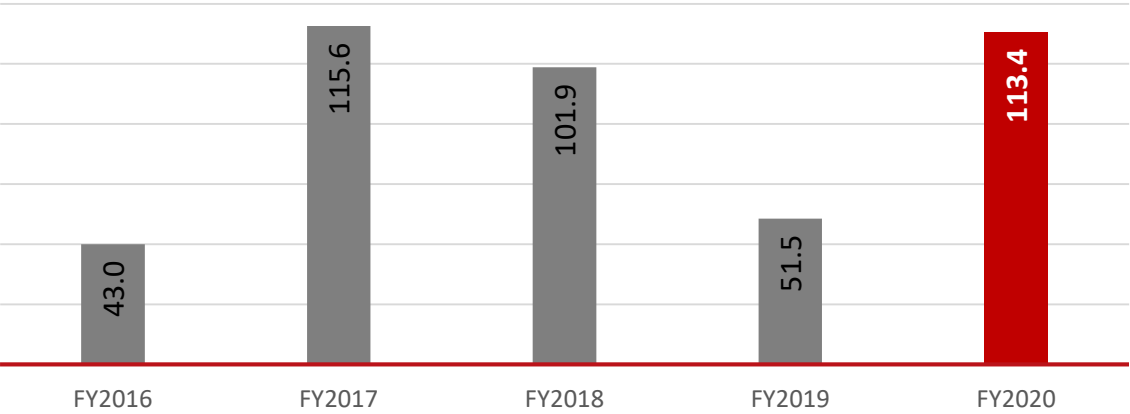
Proactive management of  
the balance sheet during  
COVID-19

Supported by strong  
relationships with key  
financiers, suppliers and  
customers

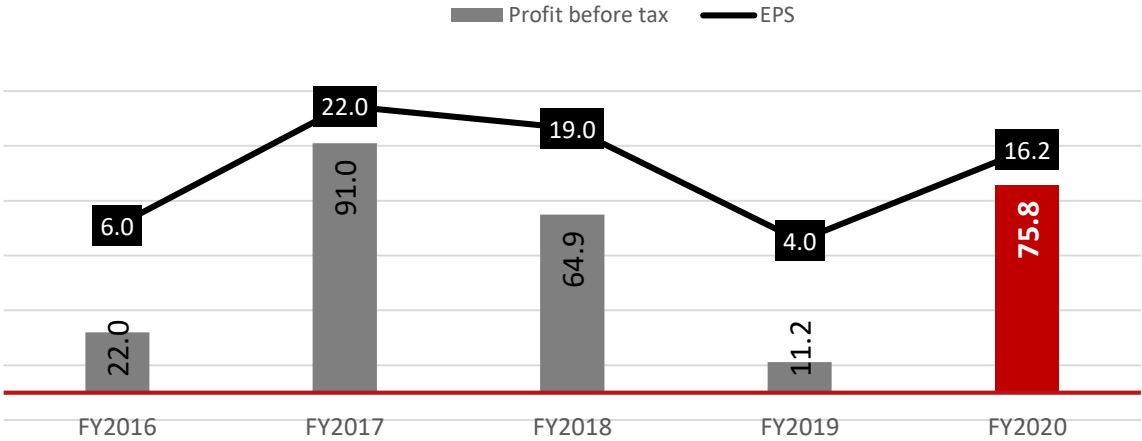
# PROFITABILITY

| METRIC                     | UNIT       | FY2020 | FY2019 | % change |
|----------------------------|------------|--------|--------|----------|
| Revenue                    | US\$ m     | 406.0  | 342.9  | 18.4     |
| EBITDA                     | US\$ m     | 113.4  | 51.6   | 119.8    |
| Profit before tax          | US\$ m     | 75.8   | 11.2   | 576.8    |
| Earnings per share         | US\$ cents | 16.2   | 4.0    | 305.0    |
| Dividend per share         | US cents   | 3.50   | 0.75   | 367.0    |
| Return on equity           | %          | 12.3   | 3.3    | 272.7    |
| Return on invested capital | %          | 18.8   | 5.2    | 261.5    |

EBITDA  
(US\$ m)

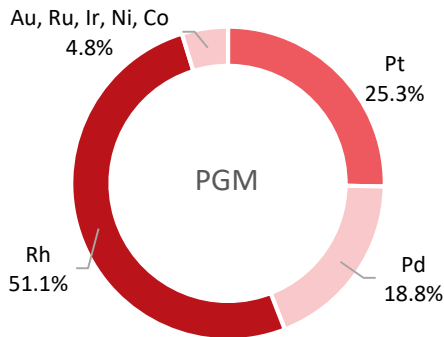
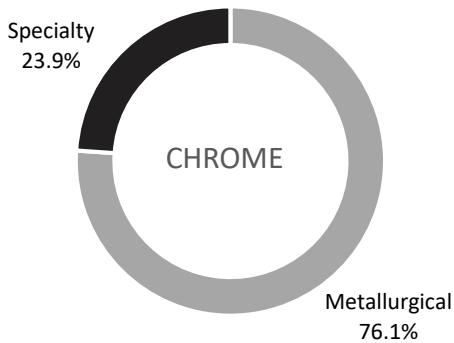
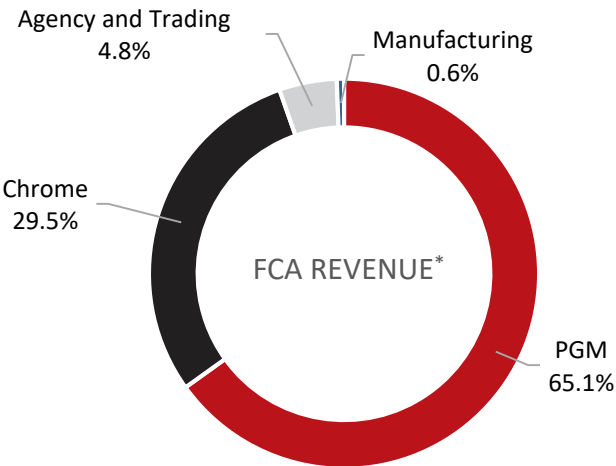


PROFIT BEFORE TAX AND EPS  
(US\$ m) (US cents)



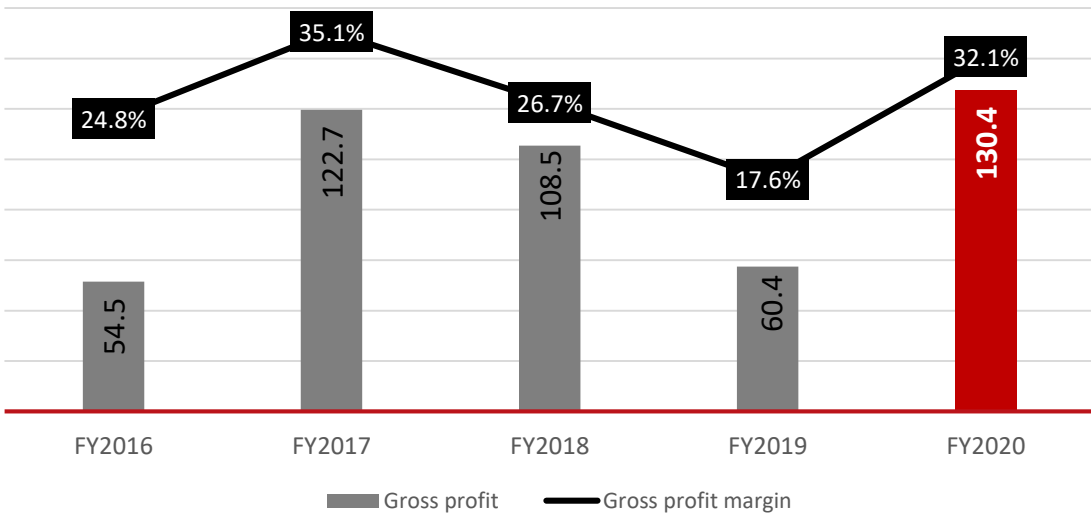
# REVENUE AND GROSS PROFIT

|                         |                            |
|-------------------------|----------------------------|
| PGM GROSS PROFIT MARGIN | CHROME GROSS PROFIT MARGIN |
| 39.4%                   | 25.0%                      |



- Gross profit margins improved to 32.1% (2019: 17.6%)
- The major factors contributing:
  - increased sale volumes
  - increase in the PGM basket price
  - benefits of the weaker ZAR:US\$ exchange rate

GROSS PROFIT  
(US\$ m)



\*Net of inland logistics and freight costs

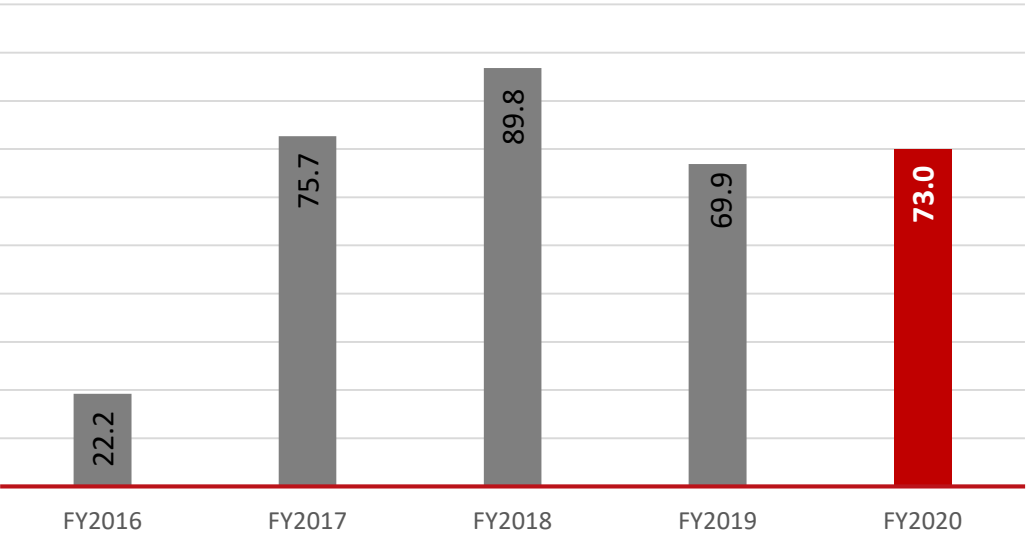
CO-PRODUCTION MODEL

# CASH FLOW AND DIVIDENDS

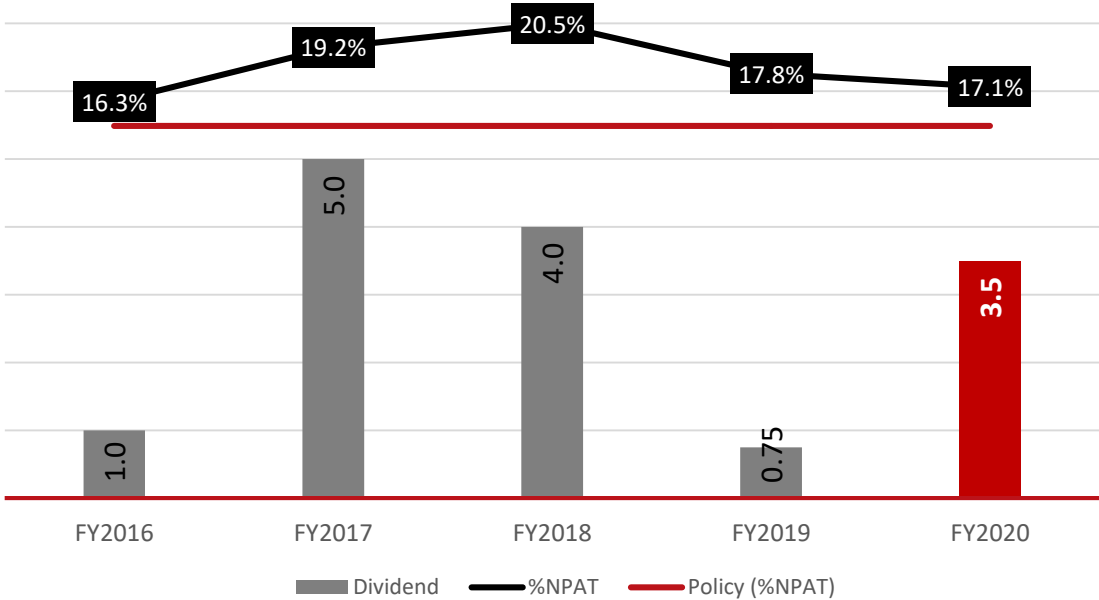
- Group generated operating cash flow of US\$73.0 m
  - Movement in trade and other receivables US\$50.6 m
- Capex of US\$70.6 m

- Committed to capital discipline
- Dividend of US 3.5 cents per share = 17.1% of NPAT
- Minimum of 15% of annual NPAT
- Capex commitments taken into considerations

NET CASH FLOW FROM OPERATING ACTIVITIES  
(US\$ m)



CONSISTENT DIVIDEND PAYER  
(US\$ m)



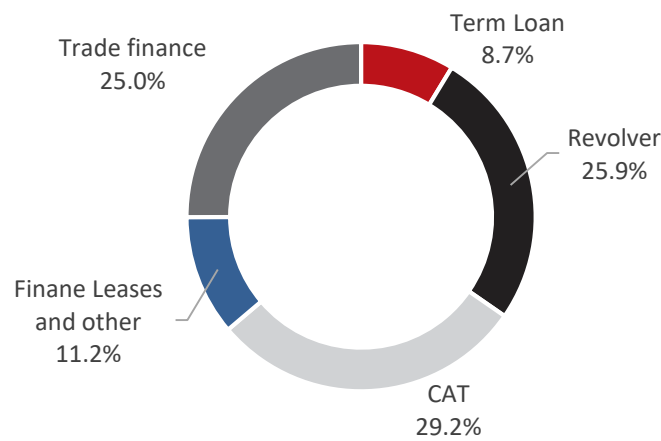
HEALTHY OPERATIONAL CASH GENERATION

# BALANCE SHEET AND CAPEX

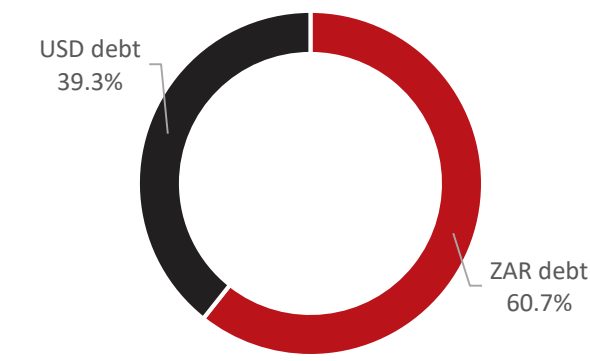
- Total debt of US\$70.4 m
  - Trade finance amounted to US\$17.3 m
  - Debt to total equity ratio of 21.9%
  - Cash and cash equivalent of US\$49.3 m
  - Net debt to total equity ratio of 6.6%
  - Focus on working capital management - current ratio at 1.8 times

- FY2020 Capex US\$70.6 m
  - US\$24.7 m mining fleet
  - US\$22.7 m deferred stripping
  - US\$11.4 m related to other mining assets
  - US\$11.8 m related to expansion capital
  - Depreciation charge of US\$27.9 m
- FY2021 Capex US\$54.4 m (excludes FY2021 deferred stripping)
  - Vulcan capex US\$46.4 m

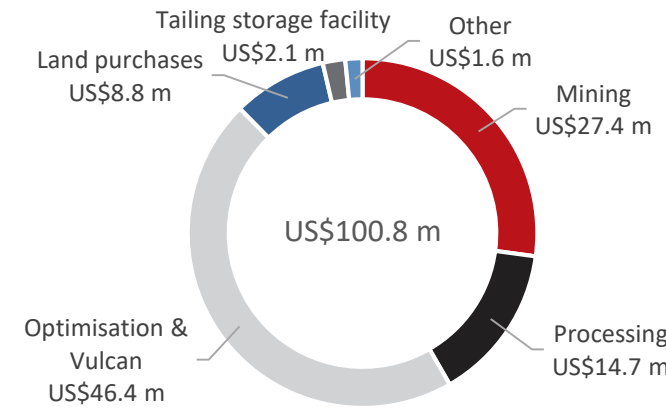
DEBT POSITION WITH TRADE FINANCE



DEBT CURRENCY SPLIT (EXCLUDING TRADE FINANCE)



FY2021 PLANNED CAPEX



tharisa



OUTLOOK

# COMMITMENT TO R&D AND INVESTMENT

- Since the initiation, Tharisa has been committed to the beneficiation of its mineral products as well as the development and deployment of innovative processing and technology
- The R&D department of Tharisa has been developing a number of different projects,
  - Specifically targeting PGM beneficiation, chrome beneficiation
  - Development of niche products
  - Entered the energy market through various initiatives.
- To date Tharisa has spent approximately US\$81 m on R&D projects
  - Including the commercialisation of these projects to operations and the current construction of the Vulcan Plant
- The Vulcan Process was conceptualised by the R&D department and is under construction
- Various areas of research include:
  - Original Tharisa Mine design including ferrochrome manufacturing capacity
  - The feasibility of ferrochrome smelting in China
  - Various PGM optimisation and beneficiation initiatives and studies
  - Development of niche chrome products and end uses
  - Energy related projects

**US\$504 m**

**THARISA GROUP TOTAL INVESTMENT**

**US\$81 m**

**R&D AND COMMERCIALISATION SPEND**



# R&D TO COMMERCIALISATION

## 1MW SMELTER



Producing PGM alloy and to develop further downstream processes

## PGM OPTIMISATION PROJECTS



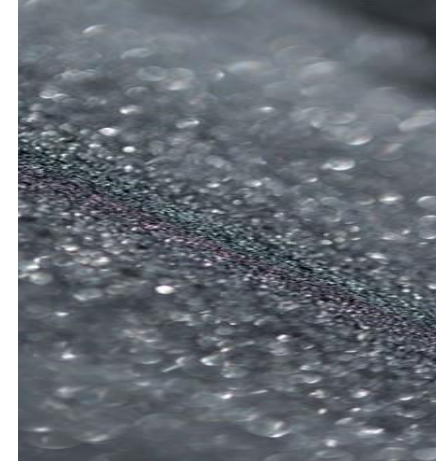
Successfully increasing the PGM recoveries at the Tharisa Minerals plants

## CHALLENGER PLANT



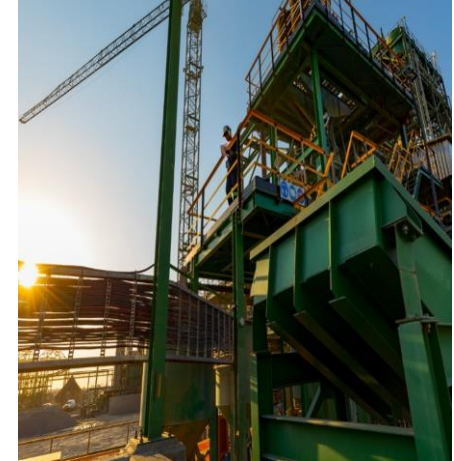
Production of higher value chemical and foundry grade chrome concentrates

## FOURTH STAGE CRUSHING



Increased the capacity for production of specialty chrome products at the Genesis Plant

## VULCAN PLANT



In house developed process for the recovery of fine chrome

## THARISA UNITE



## SIX PILLAR GROWTH STRATEGY

- Expand and roll out our business sustainably
- Further optimise our existing operations
- Continue to invest in innovative thinking
- Become a global and diversified business
- Be the investment of choice in our chosen sector
- Responsibly enriching the lives of all of our stakeholders

 @tharisa\_sa

#proudlytharisa



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# CHROME TAX



- Anglo American Platinum, Assore, Bauba Resources, Implats, Northam Platinum, Sail, Sibanye-Stillwater, Siyanda Resources and Tharisa
- An independent Chrome Ore Producers Group representing primary and UG2 chrome ore producers
- Opposed to the chrome tax as this will not solve the fundamental challenge that the ferrochrome industry faces, namely escalating electricity prices
- The proposed chrome tax may lead to unintended consequences, including job losses and displacement of dominant South African supply
- Other interventions, which exclude a tax, and can assist the entire value chain
- Chrome SA is supportive of beneficiation and can assist in finding long-term solutions for all interested and affected parties

**G:** Many of the arguments in support of the proposed chrome ore export tax are either flawed or highly speculative

**Logic of the tax:** attempt to leverage global position of SA chrome ore exporters in order to raise the cost of Chinese ferrochrome and thereby increase the relative competitiveness of SA ferrochrome (See Appendix A for economic theories of export tax)

**Outcome of the proposed tax critically depends on the complex chain of responses by other players in the global chrome value chain. Many of the extreme assumptions which underpin the proposed logic of the export tax are either highly uncertain or simply do not hold :**

**Assumption 1:** SA chrome ore producers have sufficient market power to increase the chrome ore price without losing market share in the export market. Thus no harm to SA chrome ore miners is assumed.

**Potential leakages:**

- a) International chrome ore producers have excess capacity to displace material volumes of SA chrome ore
- b) Chinese ferrochrome producers have significant countervailing power.

**Assumption 2:** Increased chrome ore prices will reduce the relative competitiveness of Chinese ferrochrome producers and lead to a shift in Chinese stainless steel preferences in favour of SA chrome ore.

**Potential leakages:**

- Various responses by China are likely to dilute the impact of the export tax:
- a) State supported ferrochrome/stainless steel in China absorb additional cost to retain market share
  - b) Retaliatory trade policy aimed at SA

**Assumption 3:** The export tax will lead to a significant increase in the achievable revenue for SA ferrochrome producers – this will improve the sustainability of these operations.

**Potential leakages:**

- a) Only SA's exports to China and Indonesia can expect any form of benefit (i.e. only 48%-60%\* of exports).
- b) Other international ferrochrome producers who are not reliant on SA chrome ore will provide a competitive constraint on prices in China/Indonesia.
- c) Rising electricity prices will erode any potential benefit in a couple of years

\* 48% figure based on official SARS data – although ferrochrome sector suggest it may be closer to 60%

Source: Genesis Analytics