

THIS IS THARISA

JULY 2024

Unlock the Stock



tharisa

WHY MINING • WHY NOW • WHY THARISA



MINING

- “If it is not grown it is mined”
- Critical to supply into the clean energy transition
- Responsible and sustainable extraction of critical minerals and metals
- All metals are critical in their unique applications



NOW

- OECD forecasts that global materials demand will more than double in 2060
- Significant global competition for finite resources
- Lack of SIB and expansion capital
- Substantial capital investment needed in the sector



THARISA

- Mine builders and operators
- Multi-generational assets of strategic commodities
- Continuous value unlock through innovation and technology
- Technology enables new applications for our commodities



PRODUCTS

- Co-product commodities delivering into physical demand
- Designated critical minerals with high economic importance
- PGMs continue to clean the environment from catalysts to electrolyzers and fuel cells
- Chrome is what makes stainless steel stainless
- PGMs and chrome are more than 95% recyclable

CONTINUED MACRO ADVERSITY

HEADWINDS

MACRO

- Electricity constraints in South Africa
- Transport infrastructure challenges
- Geopolitical complexities
- Inflation / interest rate environment
- Volatile commodity price environment
- Crime and corruption
- Impact of climate change
- Fiscal and regulatory uncertainty
- Capital availability for mining projects

TAILWINDS

COMMODITIES

- Co-product business model
- Buoyant chrome commodity market
- Counter cyclical commodities in basket
- Fundamentals for both commodities are robust

MACRO

- Strong momentum behind hybrid drivetrains and hydrogen economy (benefits PGMs)
- Chinese stainless steel outlook is positive
- Primary supply constraints entrench growing deficits
- Capital investments in expansion and new projects deferred
- Weakening trend of ZAR to US\$ - offsetting inflationary pressure

**resilient
business
model**

10 YEARS LISTED ON THE JSE



Q3 PRODUCTION STATISTICS

0.03 LTIFR
Tharisa Minerals

0.1 LTIFR
Karo Platinum

Successful US\$5m
share buyback

Redox One
commercialisation on track

REEF MILLED

1 396.1 kt

(Q2 2024: 1 378.5 kt)

PGM PRODUCTION (6E)

36.9 koz

recovery of 67.3%
(Q2 2024: 35.3 koz)

CHROME CONCENTRATE PRODUCTION

410.7 kt

recovery of 68.5%
(Q2 2024: 402.7 kt)

EXCHANGE RATE

ZAR18.6:US\$

(Q2 2024: ZAR18.9:USD)

PGM PRICE

USD1 391/oz

(Q2 2024: USD1 343/oz)

CHROME PRICE

USD309/t

(Q2 2024: USD286/t)

CASH ON HAND

US\$189.9 m

(Q2 2024: US\$184.6 m)

DEBT

US\$97.7 m

(Q2 2024: US\$114.0 m)

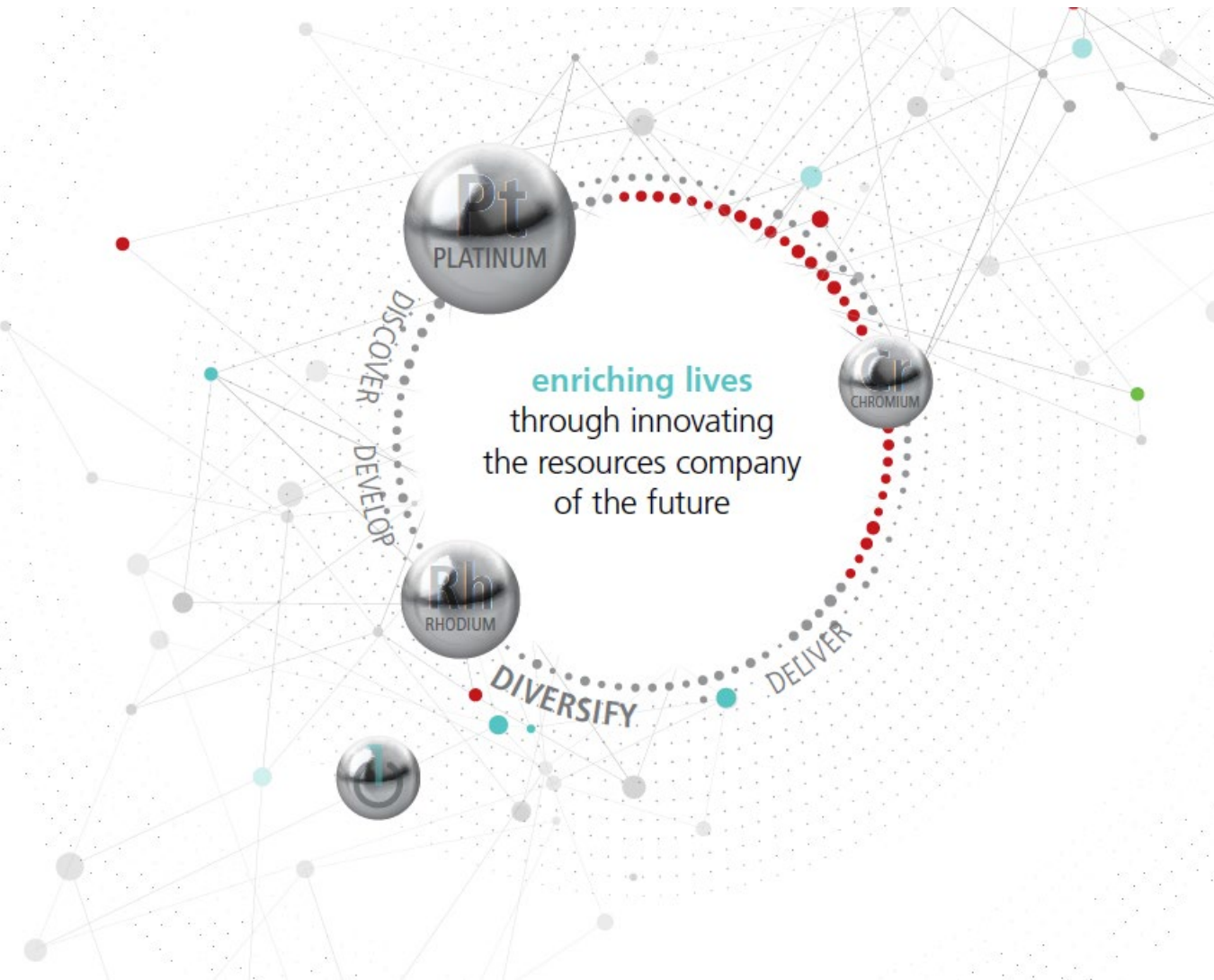
NET CASH

US\$92.2 m

(Q2 2024: US\$70.6 m)

Production guidance FY2024 is 145 koz and 155 koz PGMs (6E basis) and 1.7 Mt to 1.8 Mt of chrome concentrates

VISION 2025



enriching lives through innovating the resources company of the future



EXPANSION

expand and roll out the business sustainably



OPTIMISATION

optimise existing operations



INNOVATION

continue to invest in innovative thinking



DIVERSIFICATION

become a globally diversified business



INVESTMENT

be the investment of choice in our chosen sector



ENRICHMENT

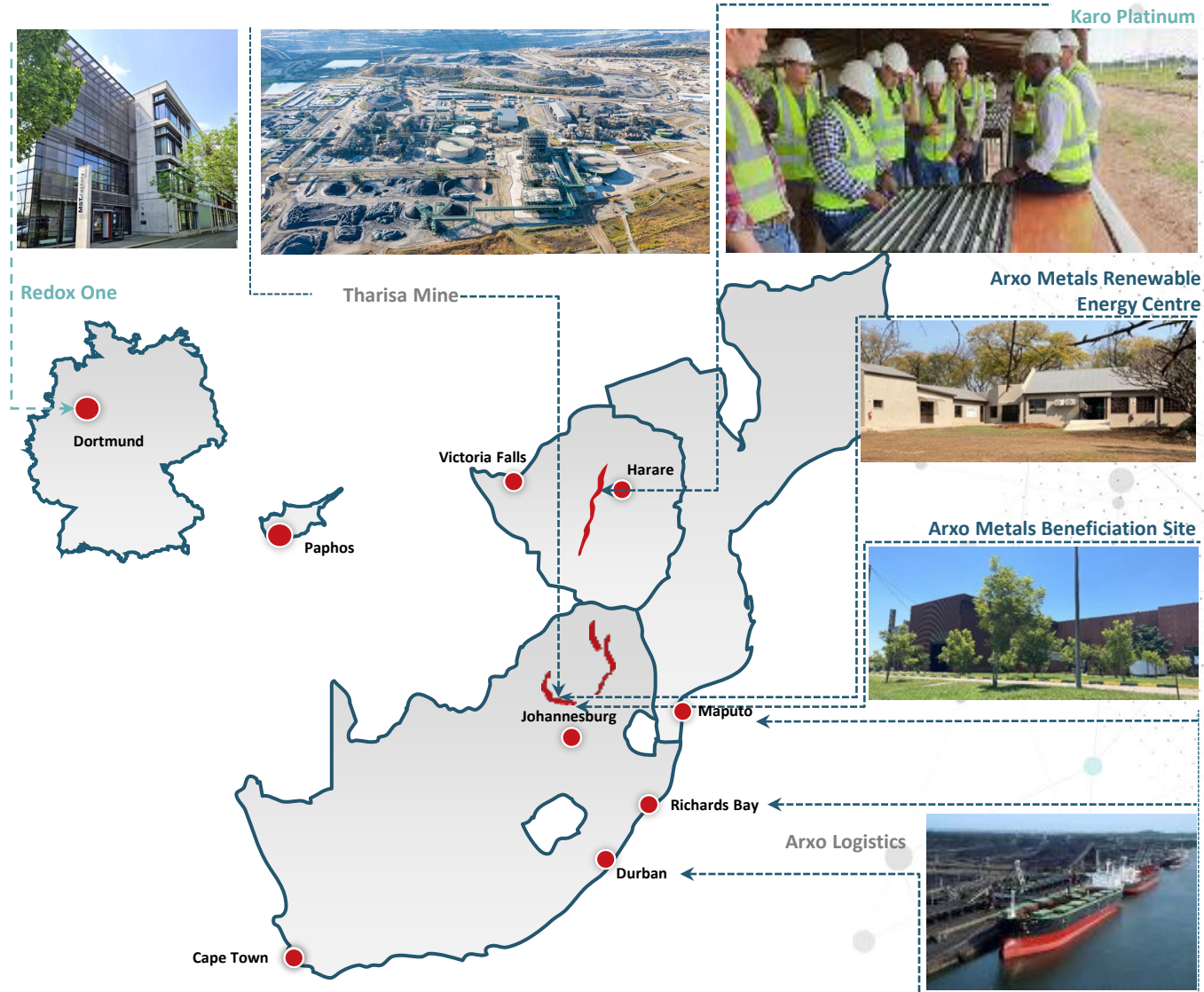
responsibly enrich the lives of all our stakeholders

39.4 Moz & 11.3 Moz
IN CONTAINED PGMS (6E)

166.2 Mt
IN CONTAINED CHROME

SECURITY OF RAW MATERIAL SUPPLY
THROUGH SHALLOW
MULTIGENERATIONAL MINERAL ASSETS,
ENABLED BY TECHNOLOGY AND
INNOVATION

COMPLEMENTED BY PIT TO PORT
STRATEGY

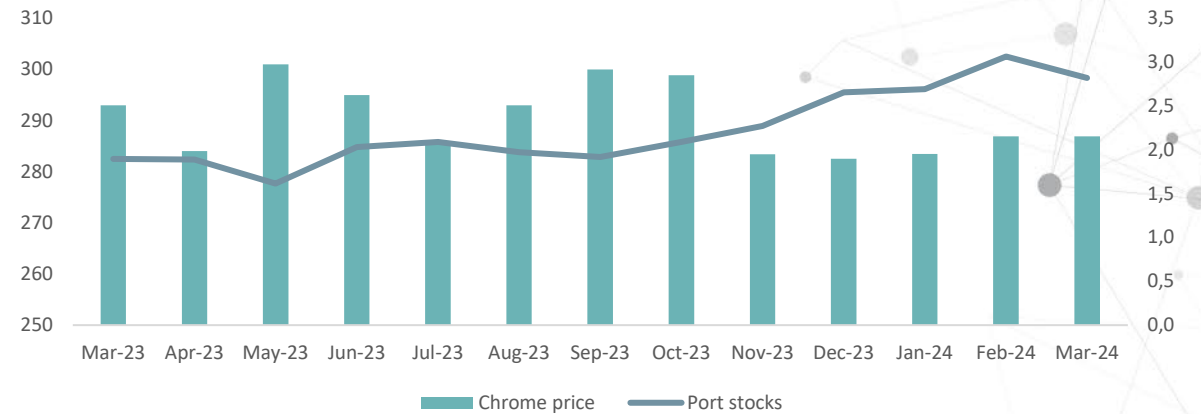


COMMODITIES

CHROME

- No substitution for chrome in stainless steel production
- Stainless steel demand growth for 2023 of ~5%, Chinese production increased 12.6% for 2023
- Chrome prices remain robust on the back of low port stocks and growing stainless steel demand
- South Africa supplies 80% of China's chrome needs, China has no own chrome reserves
- Tharisa supplies ~10% of China and Indonesia's chrome demand

METALLURGICAL GRADE PRICE AND PORT STOCKS
(US\$/t) and (Mt)

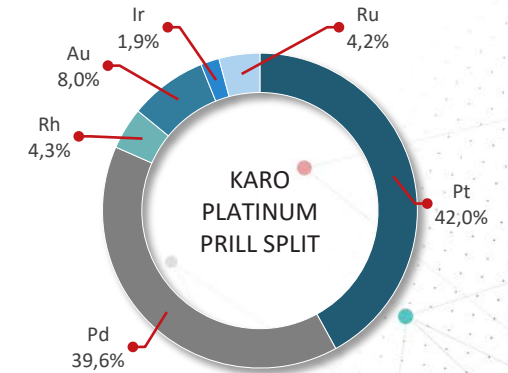
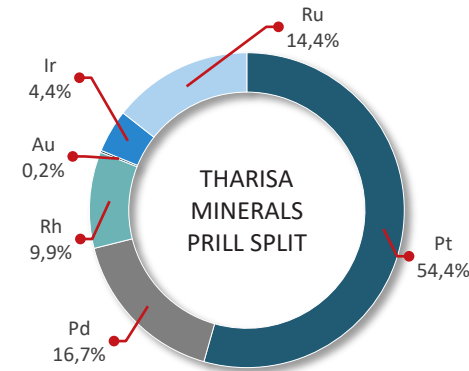


COMMODITIES

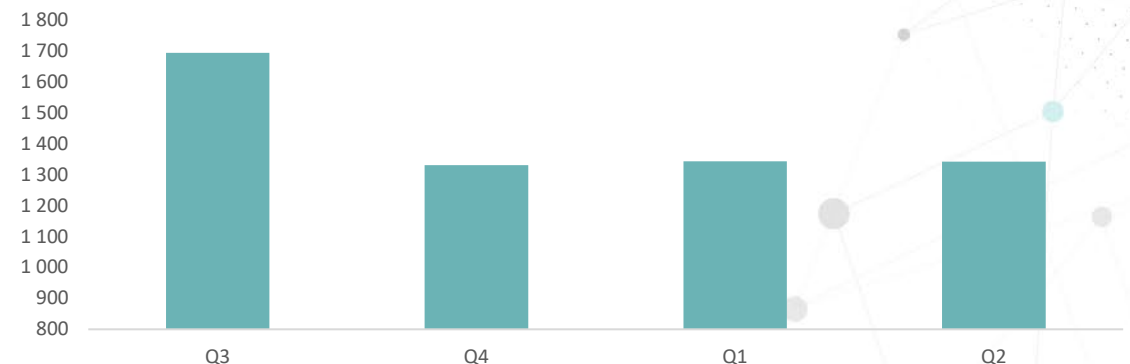
US\$1 381/oz
SPOT PGM BASKET PRICE

PGMS

- Primary supply reduction should be main catalyst for PGM price increases
- Recycling less of a supply contributor as vehicle ownership periods have extended – up to 14 years
- Buying patterns by automakers have started to normalise versus erratic buying in pandemic including inventory destocking
- Automotive sales up year on year to 92 million vehicles for 2023
- BEV slower uptake necessitating hybrid solution (PGM in catalysts and fuel cells) – visible in slower EV uptake and PHEV growth in 2023
- Grid infrastructure roll-out delays necessitating hybrid solutions
- Deficits in Rh, Ir and Ru, Pd to remain, Pt heading towards a record deficit
- ICE remains a major demand driver with Tier 4 and Euro 7 emissions standards still to come
- Hydrogen economy to provide multi decade PGM demand



PGM PRICING - THARISA MINE
(US\$/oz)



THARISA MINERALS

UNLOCKING STRATEGIC VALUE AND FLEXIBILITY

- Mechanised, utilising highly skilled labour
- Independent chrome plants Genesis and Voyager, and ultra fine Vulcan chrome plant
- Accelerating underground strategy and studies, ensuring sustainable multigenerational operations >60y LOM
- On track to meet decarbonisation targets with dedicated 40MW solar plant coupled with wind and solar wheeling agreement



KARO PROJECT

MULTIGENERATIONAL PGM DEVELOPMENT ASSET LONG TERM STRATEGIC POSITION THROUGHOUT THE CYCLE

- Construction continues steadily with value engineering running in parallel
- Current development aligned with capital availability
- Balance of funding required for project completion underway



KARO VIDEO

AN ETHOS OF INNOVATION

ARXO METALS BENEFICIATION SITE

- Commercial pyrometallurgical site – producing novel alloys
 - Unique PGM refining process proven
-

ARXO METALS TECHNOLOGY DEVELOPMENT CENTRE

- Facility to run laboratory and pilot scale test work – downstream focus
-

ARXO METALS RENEWABLE ENERGY CENTRE

- Focusing energy generation and storage solutions using our commodities
 - Different renewable technologies are being demonstrated
-

REDOX ONE

- Launched at African Energy Indaba in March 2024
- Long duration energy storage using FeCr redox flow batteries being demonstrated



REDOX ONE VIDEO

MINE TO MEGAWATT



DECARBONISATION PATHWAYS

- Electrification (solar project)
- Circularity (use of our metals)
- Novel technologies (long duration energy storage solutions – Redox One)
- Innovative processes, products and practices (our core)
- OEM collaboration on new drive train technology



CIRCULAR ECONOMY

- Producing lower carbon minerals
- All metals will be in demand for a decarbonised world
- See shifting dynamics with demand for battery/cleaner solutions move to the forefront
- Metals with multiple applications to be the winners
- Metals with a firm/stable supply outlook to be favoured as downstream has certainty



PGMS

- Catalytic properties
- Slower BEV uptake, hybrid solutions increase in uptake
- Use in PEM for hydrogen economy and fuel cell technology



CHROME

- Stainless steel requirement in renewable energy generation (solar, wind, nuclear, geothermal, hydroelectric and nuclear)
- Stainless steel finished products reach almost all sectors
- Renewable energy technologies applications

RETURNS TO SHAREHOLDERS

US 1.5 cents

Interim dividend

24.5%* of NPAT including share repurchase programme underway
Policy minimum of 15% of NPAT

US\$5 m

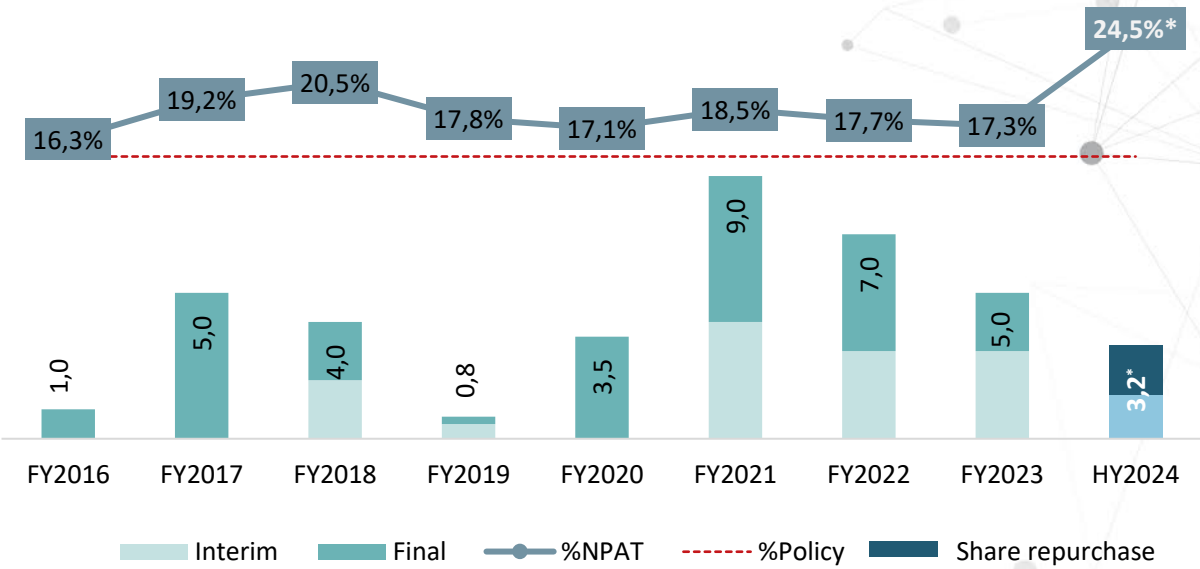
Share repurchase programme

Equivalent to US 1.7 cents per share

US\$100.6 m

Cumulative distributions to shareholders over 9 years

Commitment to capital discipline



*inclusive of share repurchase programme underway

LONG TERM VALUE PLAY



**THARISA IS AN END TO END CRITICAL METALS AND ENERGY SOLUTION
PROVIDER INNOVATING THE RESOURCES COMPANY OF THE FUTURE**



15 years

operations

10 years

cash generative

9 years

profitable

~US\$100 m

returned to
shareholders

~US\$695 m

capital invested



QUESTIONS

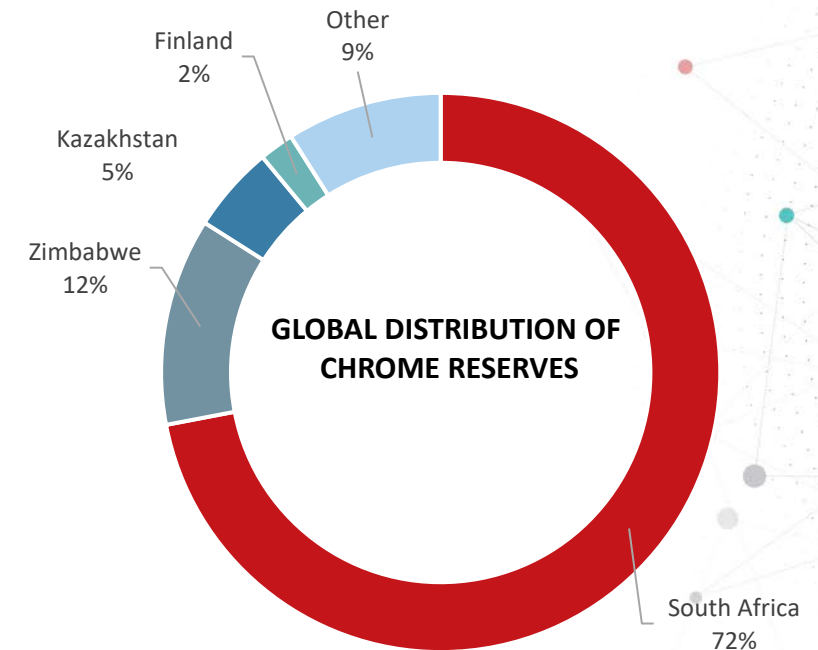
SOME DETAIL ON CHROME

CHROME

- Chromium is the 14th most abundant metal in the lithosphere
- Chromite or chrome ore is the commercial name of iron chromium oxide
- Global chromite resources are estimated at over 12 billion tonnes with reserves estimated at 470 million tonnes
- The largest reserves of chrome are located in Southern Africa South Africa and Zimbabwe
- China is dependent on imports of chrome ores and concentrates

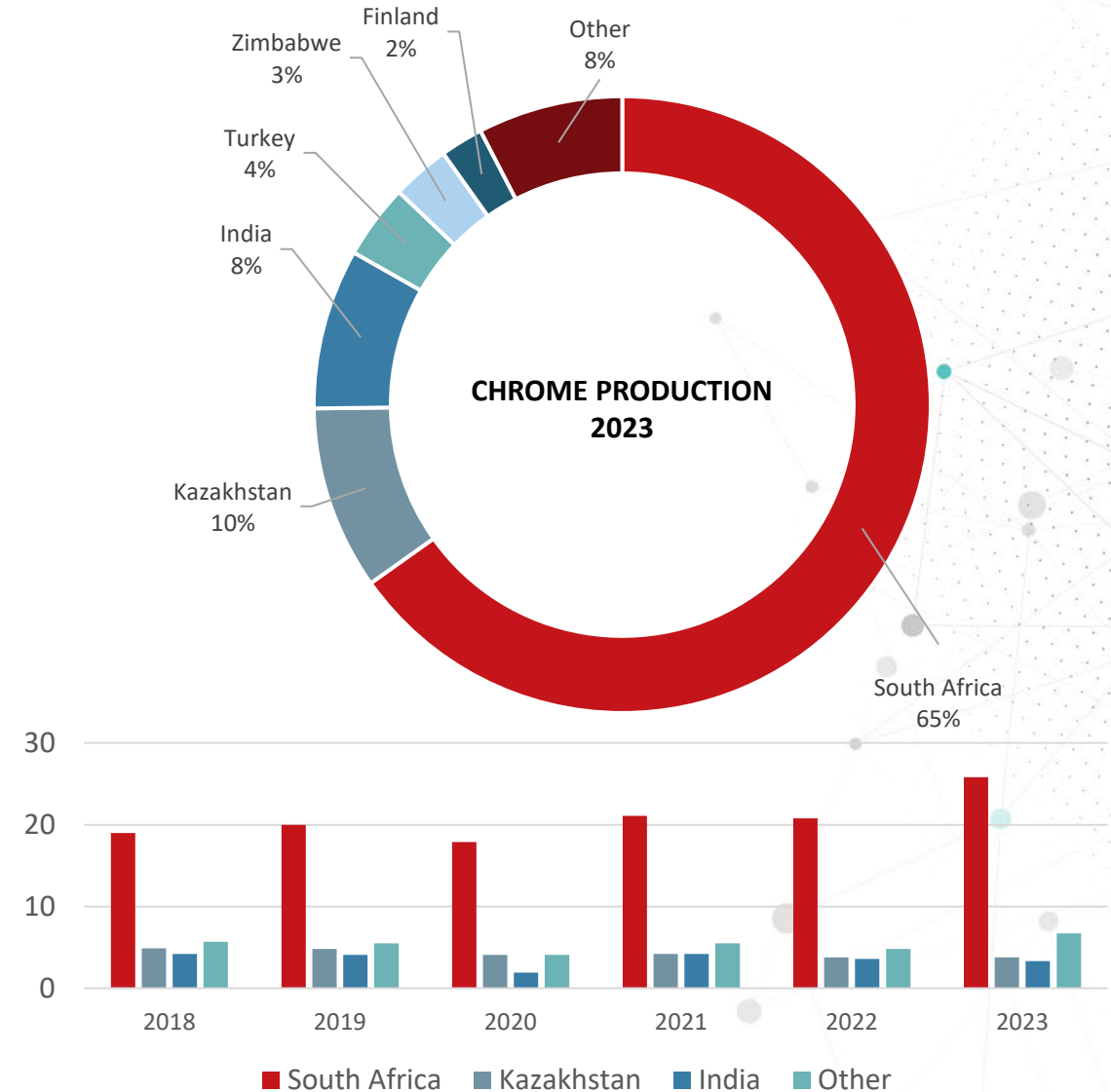
SOUTH AFRICAN GEOLOGY

- Chrome in South Africa is mainly located in the Bushveld Complex
- Chrome ore is extracted from the Lower and Middle Group Chromitite Layers
- Upper Group Layers contain chrome; however it is extracted as a byproduct from PGM production



SUPPLY

- Global chrome production in 2023 was 39.7 Mt
- Over the last 15 years, on average South Africa has accounted for more than 55% of global production
- South Africa is the largest producer reporting 25.8 Mt in 2023
- South Africa exported over 17.8 Mt in 2023, with the balance being processed in country
 - Of this over 90% was exported to China
 - South Africa accounted for 80% of global chrome trade flows
- South Africa is experiencing infrastructure constraints, including load shedding, rail and port infrastructure
- Other significant chrome producing regions are:
 - Kazakhstan, India, Zimbabwe, Finland and Turkey
 - Most of these regions benefit from their chrome in country



CHROME CONCENTRATE PRODUCTS

94.7%

METALLURGICAL GRADE

- **Metallurgical grade:** characterised by a Cr_2O_3 content of 42% to 46%, this type of chrome ore is used primarily in metallurgical applications and more specifically to create ferrochrome, which is in turn used to produce stainless steel and other specialty alloys. Stainless steel is the biggest underlying market for chrome ore. The typical grade is 41.0% to 42.0% Cr_2O_3 with SiO_2 lower than 5.0%.

3.2%

CHEMICAL GRADE

- **Chemical grade:** defined by a Cr_2O_3 content of between 40.0% and 46.5% and is used mainly to produce sodium dichromate which is used in various applications ranging from leather tanning, pigments and paints, plating, chrome metal or wood preservation. The typical grade is 44.0% to 46.0% Cr_2O_3 with the SiO_2 lower than 1.0%. This is a higher value chromite product than the metallurgical grade chrome concentrate.

1.8%

FOUNDRY GRADE

- **Foundry grade:** used for foundry applications, primarily for nozzle sands, and for moulds and castings. The Cr_2O_3 content of this grade is up to 46.0%. The typical grade is 44.0% to 46.0% Cr_2O_3 with the SiO_2 lower than 1.0%. AFS Number is managed between 45.0 and 50.0. This is a higher value chrome concentrate than the metallurgical grade chrome concentrate.

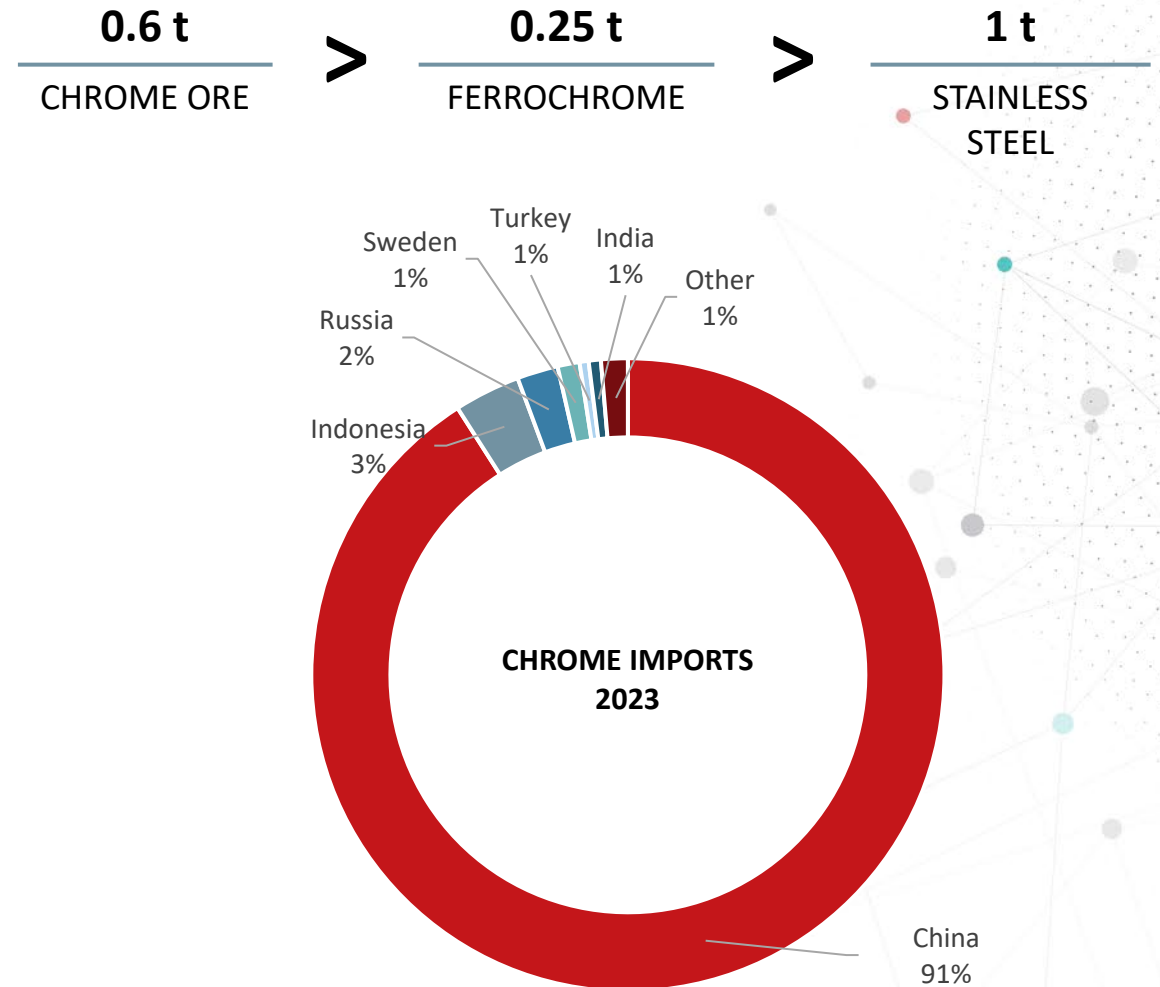
0.3%

REFRACTORY GRADE

- **Refractory grade:** The smallest segment of the chrome ore market is refractory grade, used mainly to create refractory bricks, or other applications requiring a high refractoriness. No refractory ore was reported to be produced in 2022.

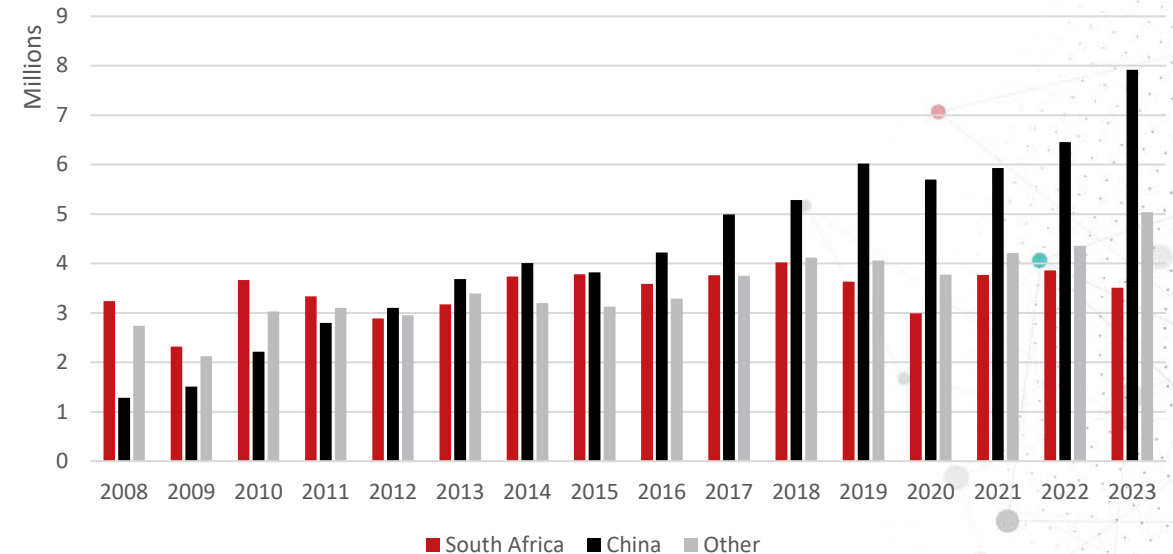
DEMAND

- Demand for chrome concentrates is dominated by its in metallurgical applications being ~95%
- Stainless steel is the largest demand from metallurgical applications, and as such the dynamics of the stainless steel industry heavily impact the chrome market
- Chrome has no substitute in stainless steel or in super alloys and chrome is the vital ingredient that differentiates it from crude steels
- Other demand is driven from the chemical industry, and lesser volumes from the foundry and refractory industries
- A total of 19.9 Mt was imported by countries in 2023, the majority being imported into China



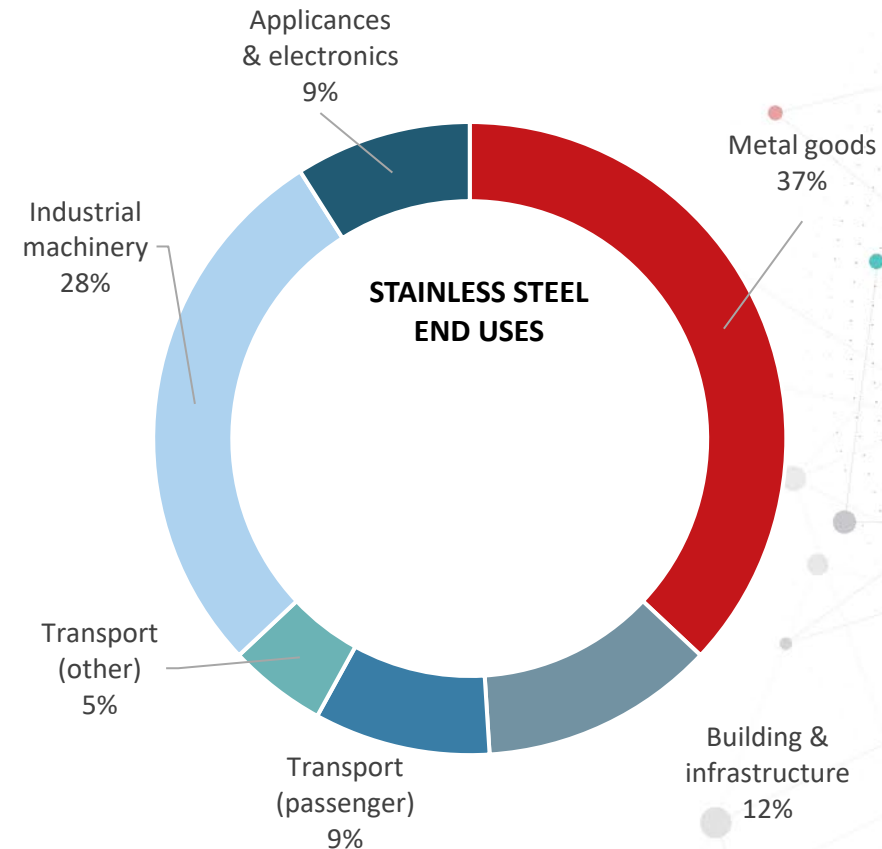
FERROCHROME PRODUCTION

- China is the largest global ferrochrome producer, having taken over from South African in 2012 and since then China has doubled its ferrochrome output capacity
- Ferrochrome production is centred from Asia other regions include India and Indonesia
- In 2023, ferrochrome production totalled 16.2 Mt
 - China produced 7.9 Mt, South Africa produced 3.5 Mt
 - Kazakhstan produced 1.4 Mt and India produced 1.5 Mt
- Major input costs include electricity supply and ores
- Global trade flows of ferrochrome were 6.8 Mt in 2023, with China consuming the most ferrochrome at 3.2 Mt, followed by Indonesia at 1.0 Mt with the majority of the balance being consumed in Asia and Europe

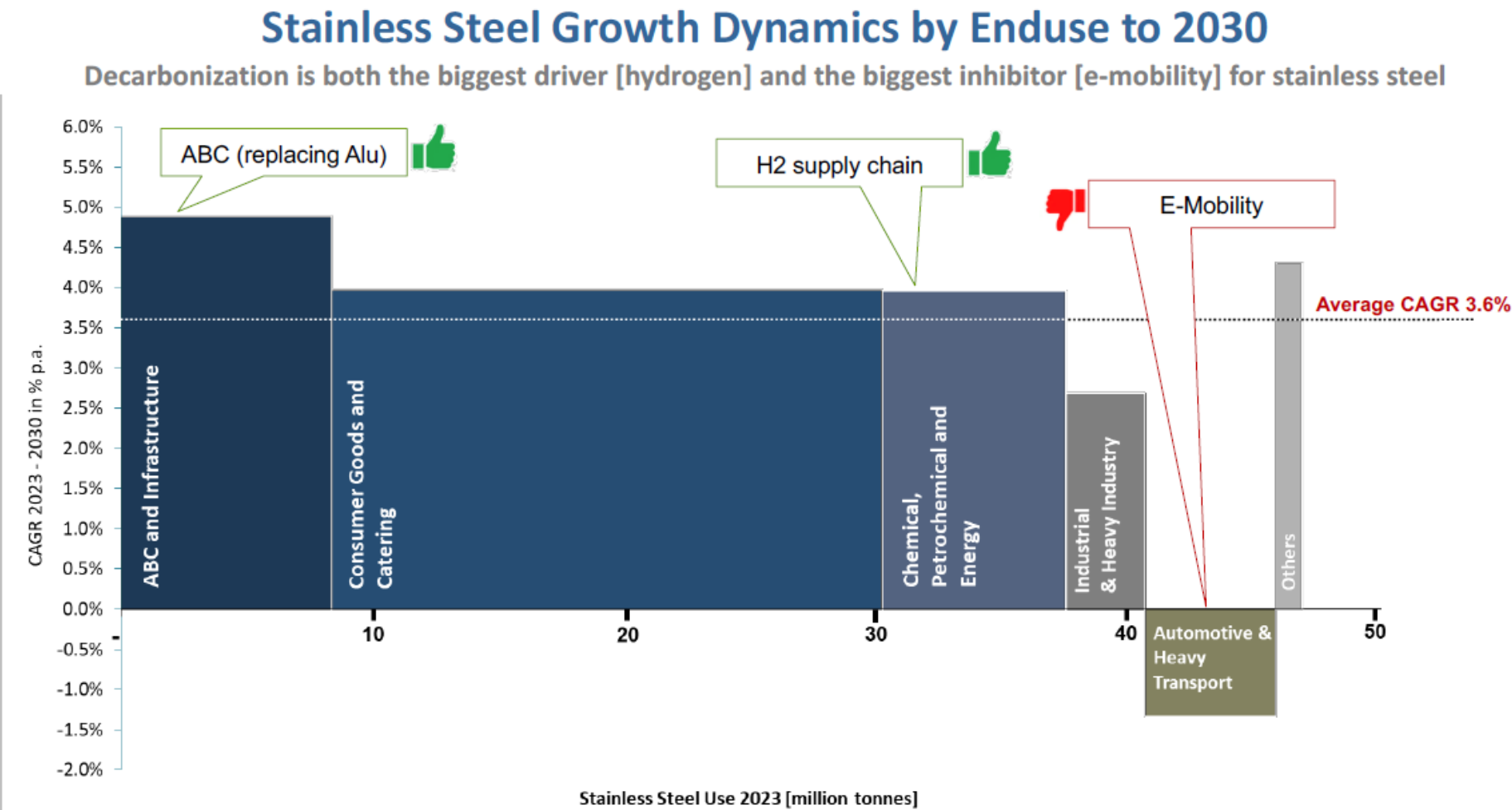


STAINLESS STEEL

- Stainless steel demand has been driven by China, accounting for more than 60% of global production, with global production being reported at 58.5 Mt for 2023
- Stainless steel is produced from processing ferrochrome and nickel
- Stainless steel also has an end of life recycling rate of 95%
- Historically stainless steel has had a CAGR of ~5%, this equates to an additional +2 Mtpa of chrome concentrate required



STAINLESS STEEL GROWTH PROJECTION



© Copyright SMR GmbH 2024
www.smr.at

- 14 -



Source SMR

STAINLESS STEEL GROWTH PROJECTION

What is Hot?



Heat Pumps



Source: Alfa Laval 2023

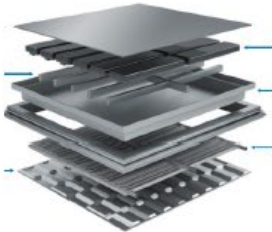
Fuel Cells



Hydrogen



BEV Battery Casings



www.outokumpu.com

STS Roofs / Facades



Vending Machines



Infrastructure
(bridges, tunnels ...)



Electrolyzers



4 Stack
Electrolysis
Module

© Copyright SMR GmbH 2024
www.smr.at

- 18 -



Source SMR

STAINLESS STEEL GROWTH PROJECTION

What is Hot?



Artistic Installations and Public Art



Drinking Water pipes



Rebars



Electrical Cabinets



Seawater Desalination Plants



Carbon Capture & Storage

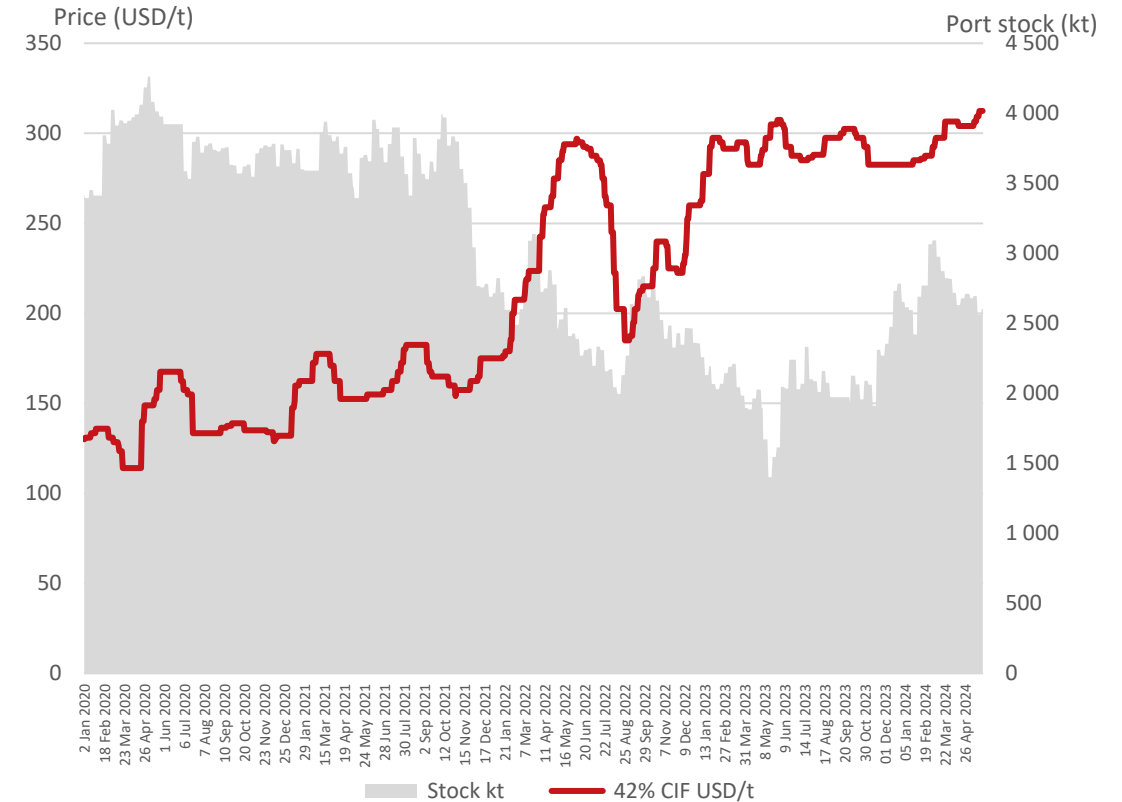


© Copyright SMR GmbH 2024
www.smr.at

Source SMR

PRICING AND PORT STOCKS

- Port stocks remain at lower levels compared to previous years at at 2.4 Mt of chrome concentrates
- This equates to less than 6 weeks of supply
- Spot pricing at US\$315/t – US\$320/t CIF China



THARISA IN CONTEXT

- Total resource of 844.8 Mt containing 166.2 Mt of Cr₂O₃
- Total reserve of 85.1 Mt containing 15.1 Mt of Cr₂O₃
- Fourth largest chrome producer in South Africa
- 1.6 Mtpa of chrome products
- Provides China and Indonesia with ~10% of its chrome requirements
- One quarter of specialty grade production
- Largest global chemical grade chrome producer
- Specialty products trade at a premium to metallurgical grade
- Proprietary technology to recover fine chrome from live tailings
- Pit to port strategy with sales to end users



FINANCIAL HIGHLIGHTS



FINANCIAL RESILIENCE THROUGH OUR CO-PRODUCTION MODEL



MULTI COMMODITIES

- Co-production model
- Polymetallic basket of strategic minerals
- Cost competitive producer from shallower resources



CASH FLOW GENERATIVE

- Net cash flows from operations of US\$86.2 m



CAPITAL DISCIPLINE

- Share repurchase programme of US\$5 m
- Interim dividend US1.5 cents
- Continuous investment through the cycle



CONTINUED INVESTMENT

- Technology and downstream beneficiation investment progressing towards commercialisation

THE VITAL NUMBERS

US\$1 344/oz

down 39.3%

PGM BASKET PRICE

US\$288/t

up 16.9%

MET GRADE PRICE

REVENUE

US\$369.1 m

up 10.1%
(HY2023: US\$335.3 m)

EBITDA

US\$79.6 m

down 2.0%
(HY2023: US\$81.2 m)

NET PROFIT AFTER TAX

US\$38.8 m

down 29.1%
(HY2023: US\$54.7 m)

NET CASH FROM OPERATING ACTIVITIES

US\$86.2 m

down 11.2%
(HY2023: US\$97.1 m)

CAPITAL EXPENDITURE

US\$114.1 m

includes US\$63.1 m on Karo Platinum
(HY2023: US\$49.3 m)

CASH AND CASH EQUIVALENTS*

US\$198.5 m

(FY2023: US\$269.0 m)

EPS

US 12.8 cents

down 26.4%
(HY2023: US 17.4 cents)

INTERIM DIVIDEND

US 1.5 cents

24.5% of NPAT**
(HY2023: US 3 cents)

SHARE REPURCHASE PROGRAMME

US\$5 m

equivalent to US 1.7 cents per share

*includes amounts held in restricted bank deposits

**proportion of NPAT including share repurchase programme underway

MULTI COMMODITY REVENUE STREAM

US\$369.1 m

Revenue increase of 10.1%

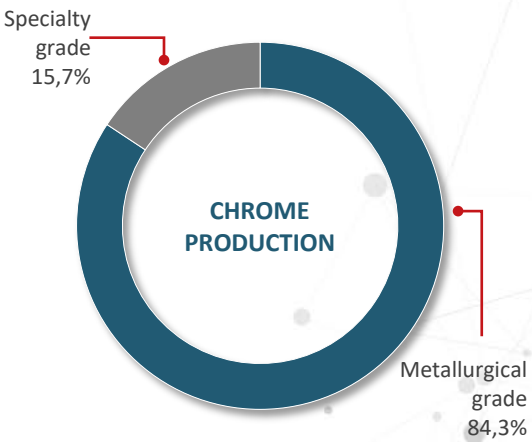
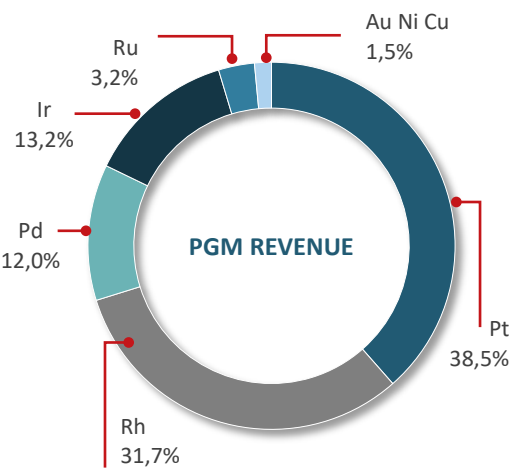
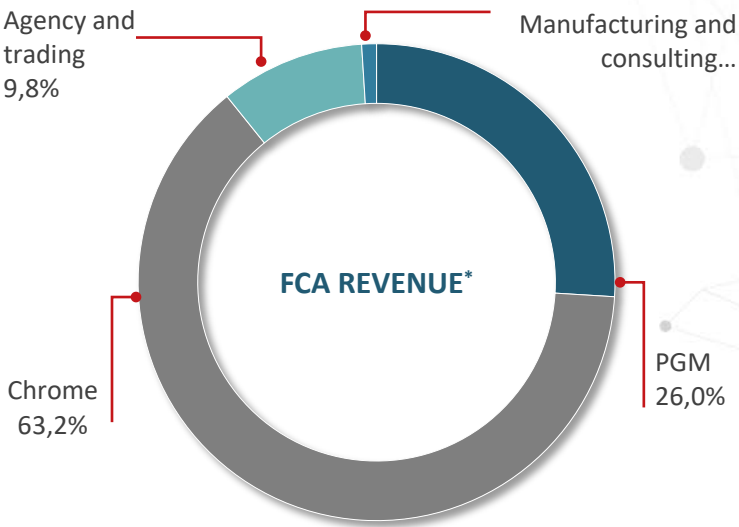
Benefits of co-production model

PGM sales of 70.6 koz

Average PGM basket price of US\$1 344/oz

Metallurgical grade chrome sales of 801.8 kt

Average chrome price of US\$288/t



*net of inland logistics and freight costs

EBITDA WATERFALL



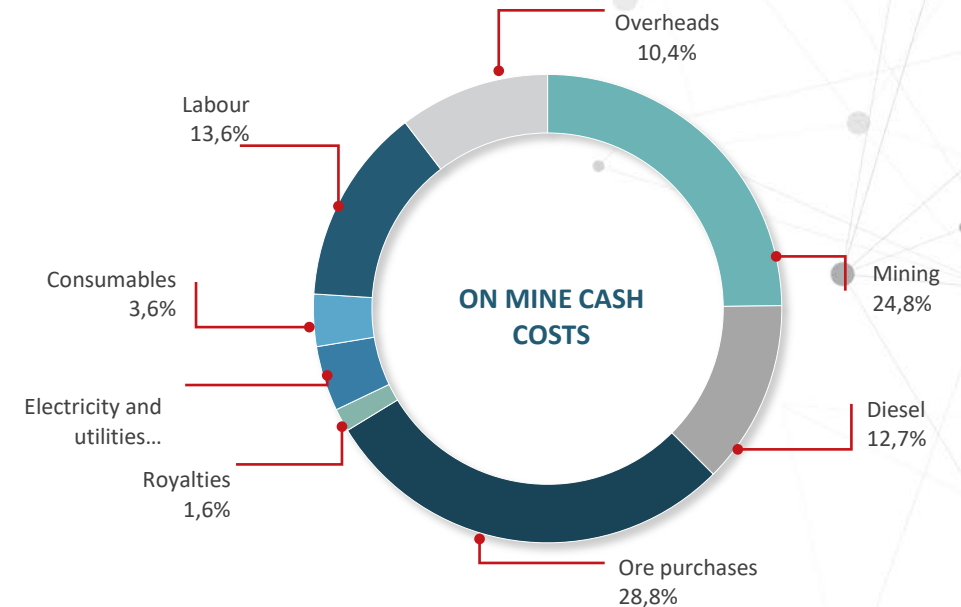
UNIT COSTS

	Units	HY2024	HY2023	% change
Cubes mined	Mm ³	8.7	7.3	19.2
Cost per cube mined*	US\$/m ³	10.6	10.9	(2.8)
Reef tonnes mined	Mt	2.1	2.1	
Cost per reef tonne mined*	US\$/t	44.1	37.7	17.0
Tonnes milled	Mt	2.8	2.8	
On mine cash cost per tonne milled [#]	US\$/t	56.8	48.2	17.8
Consolidated cash cost per tonne milled [#]	US\$/t	63.0	53.6	17.5
Chrome inland logistics and freight costs	US\$/t	81.3	82.5	(1.4)
Exchange rate	US\$:ZAR	18.8	17.7	6.3
All in cost per Pt ounce sold [^]	US\$/oz	754.6	(1 522.4)	
All in cost per PGM ounce sold (6E) [^]	US\$/oz	1 059.3	472.9	

Deferred stripping of US\$31.5 m (HY2023: US\$8.7 m)

*inclusive of deferred stripping and exclusive of ore purchases [#]exclusive of capitalised deferred stripping and selling expenses and inclusive of ore purchases

[^]All in cost calculated on byproduct basis includes operating cost, administration costs, deferred stripping and capital



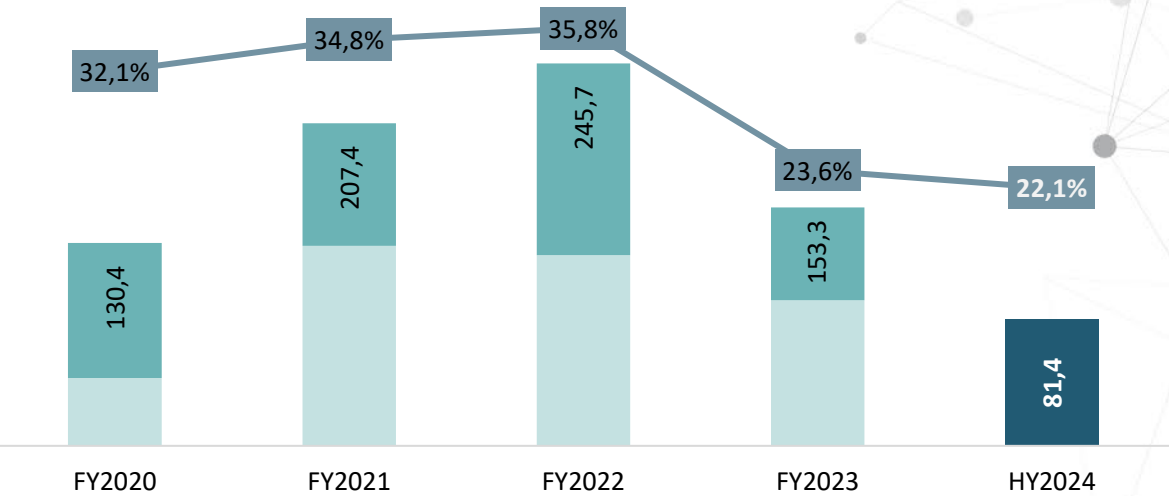
RESILIENT GROSS PROFIT

US\$81.4 m

Gross profit decrease of 13.0%

Weakening ZAR to US\$ exchange rate of 6.3% partially offset inflation
Stable gross profit margins despite ZAR input cost pressures

GROSS PROFIT AND MARGIN
(US\$ m)



PGM price (USD/oz)	1 704	3 074	2 564	1 893	1 344
Chrome price (USD/t CIF China)	140	154	209	263	288
Exchange rate (ZAR:US\$)	16.2	14.8	15.8	18.2	18.8

INVESTING IN THE FUTURE

US\$114.1 m

Total capital spent

Sustainable operations enabled by continued investment in asset base

Includes:

- US\$63.1 m capital spent on Karo Platinum
- US\$31.5 m on deferred stripping

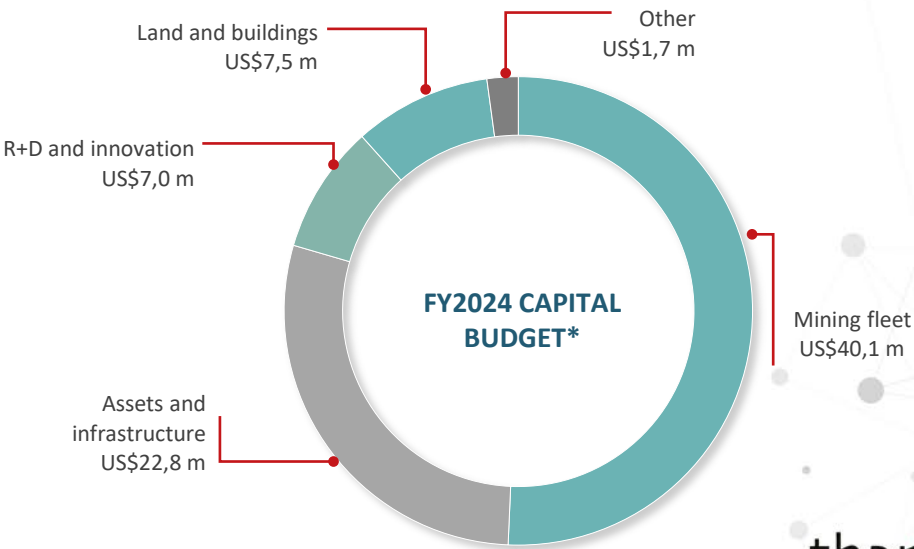
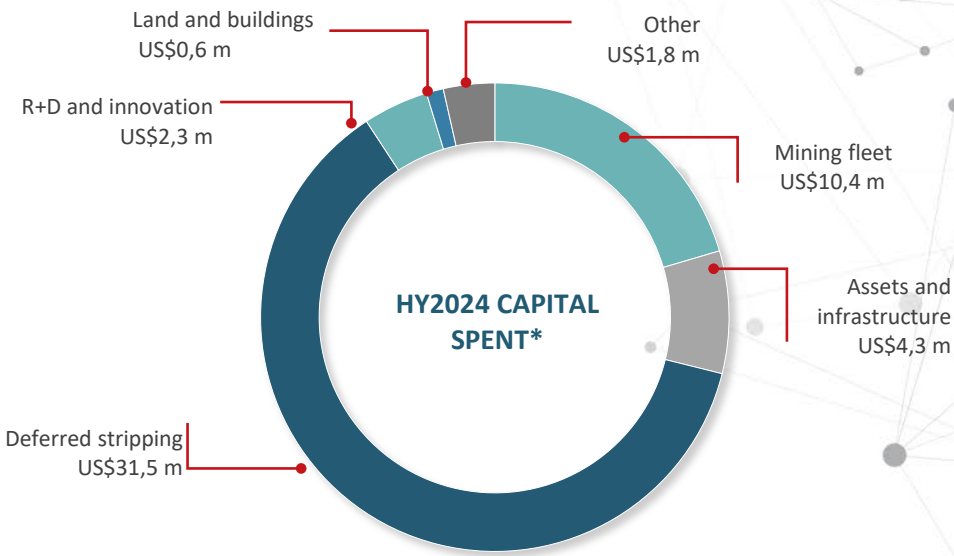
US\$79.1 m

Capital budget for FY2024 excluding Karo Platinum

Excluding deferred stripping

Karo Platinum capital for next six months of ~US\$38 m

Karo Platinum total project capital of US\$391 m + ~10% for extended schedule



*excluding Karo Platinum

BALANCE SHEET

US\$198.5 m

Cash and cash equivalents*

Cash generative despite PGM pricing environment and inflationary pressures
Net cash flow from operations of US\$86.2 m
Net cash of US\$86.3 m*

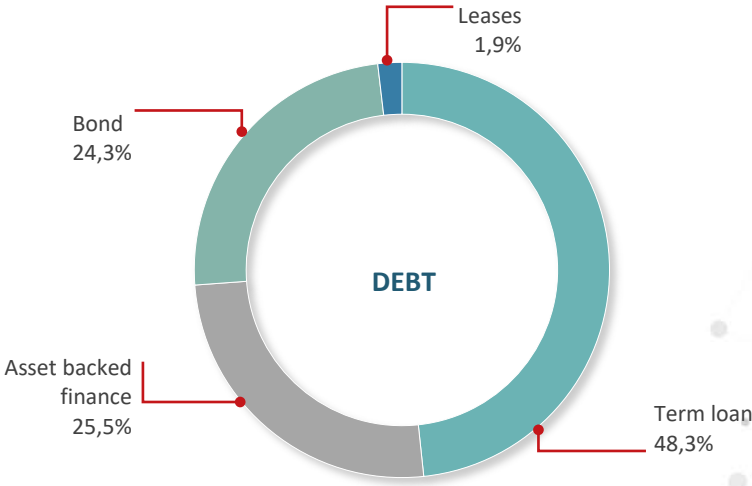
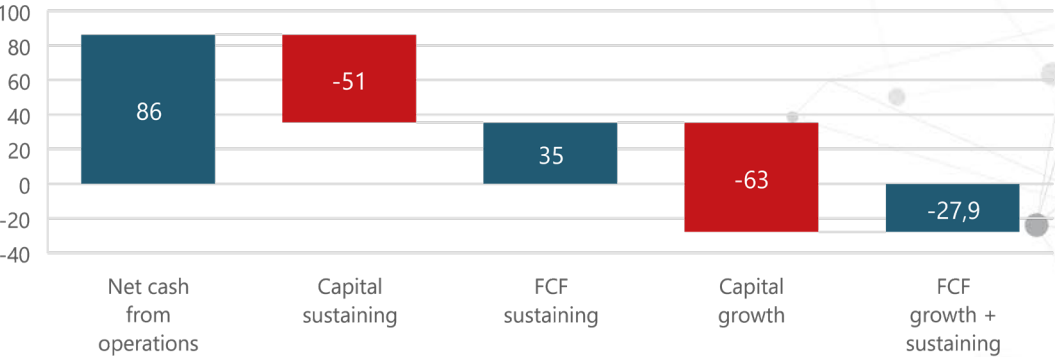
US\$112.3 m

Total debt

Short term US\$49.4 m
89.4% US\$ denominated and 10.6% ZAR denominated
Current ratio of 2.1
Net debt to EBITDA of (1.1x)
Net debt to equity (11.0%)
Undrawn facilities of US\$80.6 m and US\$20 m in trade finance

*including amounts held in restricted bank deposits

FREE CASH FLOW (US\$ m)



DISCLAIMER

These Presentation Materials are for information purposes only and must not be used or relied upon for the purpose of making any investment decision or engaging in any investment activity. Whilst the information contained herein has been prepared in good faith, neither Tharisa plc (the 'Company') and its subsidiaries (together, the 'Group') nor any of the Group's directors, officers, employees, agents or advisers make any representation or warranty in respect of the fairness, accuracy or completeness of the information or opinions contained in this presentation and no responsibility or liability will be accepted in connection with the same. The information contained herein is provided as at the date of this presentation and is subject to updating, completion, revision, verification and further amendment without notice.

These Presentation Materials contain forward-looking statements and information in relation to the Group. By its very nature, such forward-looking statements and information require the Company to make assumptions that may not materialise or that may not be accurate. Such forward-looking information and statements involve known and unknown risks, uncertainties and other important factors beyond the control of the Company that could cause the actual performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by such forward-looking information and statements. Nothing in this presentation should be construed as a profit forecast. Past share performance cannot be relied on as a guide to future performance.