

FY2023 results presentation

14 DECEMBER 2023

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



**MINING IS NOT
AN OPTION BUT
THE WAY WE
DO IT IS**

LOUCAS POUROULIS

CONTINUE TO NAVIGATE UNCERTAINTY

HEADWINDS

ELECTRICITY

- Maximum requirement of 27 MW of electricity at Tharisa Mine
- Stand by diesel generators capacity to withstand load curtailment
- Plant configuration allows flexibility to manage electricity shocks
- 40 MW solar plant project underway – EA and WULA approved

TRANSPORT

- Transnet rail parastatal infrastructure challenges have necessitated shift from rail to road
- 85% road allocation from 80% rail previously
- Reallocation of bulk via Richards Bay to Maputo

MACRO

- Uncertainty
- Geopolitical
- Inflation / interest rate environment
- Volatile commodity price environment
- Crime and corruption
- Unprecedented localised weather events
- Fiscal and regulatory uncertainty

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 the hydrogen economy (benefits PGMs)
- Chinese stainless steel outlook is positive
- Primary supply constraints entrench growing deficits
 - Mine suspensions and retrenchments are imminent
- Capital investments in expansion and new projects deferred
- Weakening of ZAR to US\$ - partially offsetting inflationary pressure
- Bulk freight rates have stabilised

**resilient
business
model**

FY2023 HIGHLIGHTS

SAFETY IS A CORE VALUE

- Tharisa Minerals – LTIFR of 0.13 per 200 000 man hours worked
- Karo Platinum – LTIFR of 0.26 per 200 000 man hours worked
- Overall improved safety performance, committed to zero harm



FY2023 HIGHLIGHTS

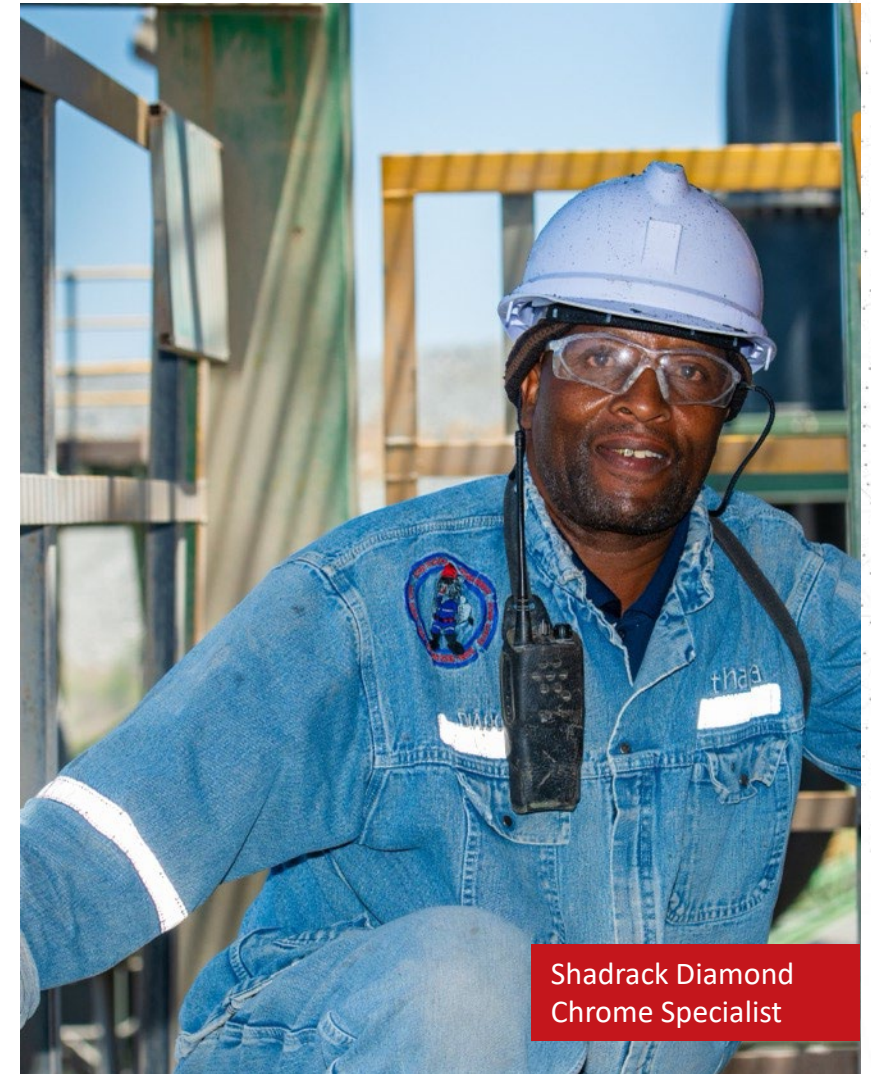
SUSTAINABLE EXTRACTION - LONG LIFE ASSETS

Tharisa Minerals

- Reef tonnes mined of 4.2 Mt, down 24.1%
- Reef milled of 5.4 Mt, down 3.5%
- PGM production of 144.7 koz, down 19.3%
- Chrome production of 1 580.1 kt, down 0.2%

Karo Platinum

- Pilot mining commenced in June 2023, which defined mining methodology and provided bulk samples of MSZ and base metal reef
- Infill drilling campaign
- Construction site spans over an area of 3 square km
- Long lead items being delivered and nearing completion
- On site concentrate batching plant with 1 790 m³ of concrete poured
- Bulk earthworks completed over 500 000 m³



VALUE SHARING

JOB CREATION

- 5 263 Group employees and contractors at end September 2023
 - Tharisa Minerals: 1 927
 - Karo Project: 135
 - Contractors: 2 886
- ~26% female employees
- No days lost to industrial action
- Constructive employee engagement

EDUCATION AND WELLNESS

- AET programmes on site for employees, contractors and communities
- Annual school stationery drive and IT centre donations and maintenance, including school shoes and interactive smartboards
- Enterprise and development initiatives, skills development for community members obtaining learner drivers licenses and employees portable skills training
- Thusanang (“helping each other”) wellness programme



TWO GENERATIONS AT THARISA

Liana Omphile Masilo is a 23 year old Electrical Engineer from the Mmadithlokwa community in Marikana. Her mother was a Tharisa employee for over 10 years until her retirement in 2023.

VALUE SHARING THIS YEAR

GROUP EMPLOYEES AND CONTRACTORS

5 236

FEMALE EMPLOYEES

~26%

MULTIPLIER EFFECT

>50 000

CURRENCY INFLOWS INTO SOUTH AFRICA
(DIRECT + INDIRECT)

US\$451.6 m

GLOBAL DIRECT TAXES AND ROYALTIES

US\$58.6 m

GLOBAL INDIRECT TAXES

US\$5.6 m

THE VITAL NUMBERS

US\$1 893/oz

down 26.2%
PGM BASKET PRICE

US\$263/t

up 25.8%
MET GRADE PRICE

REVENUE

US\$649.9 m

down 5.3%
(FY2022: US\$686.0 m)

OPERATING PROFIT

US\$94.7 m

down 48.7%
(FY2022: US\$184.5 m)

EBITDA

US\$136.8 m

down 42.4%
(FY2022: US\$237.3 m)

PROFIT BEFORE TAX

US\$114.3 m

down 48.1%
(FY2022: US\$220.2 m)

NET CASH FROM OPERATING ACTIVITIES

US\$148.3 m

down 14.6%
(FY2022: US\$173.7 m)

CASH AND CASH EQUIVALENTS*

US\$269.0 m

up 87.7%
(FY2022: US\$143.3 m)

EPS

US 27.4 cents

down 49.1%
(FY2022: US 53.8 cents)

HEPS

US 28.3 cents

down 31.1%
(FY2022: US 41.1 cents)

ANNUAL DIVIDEND**

US 5 cents

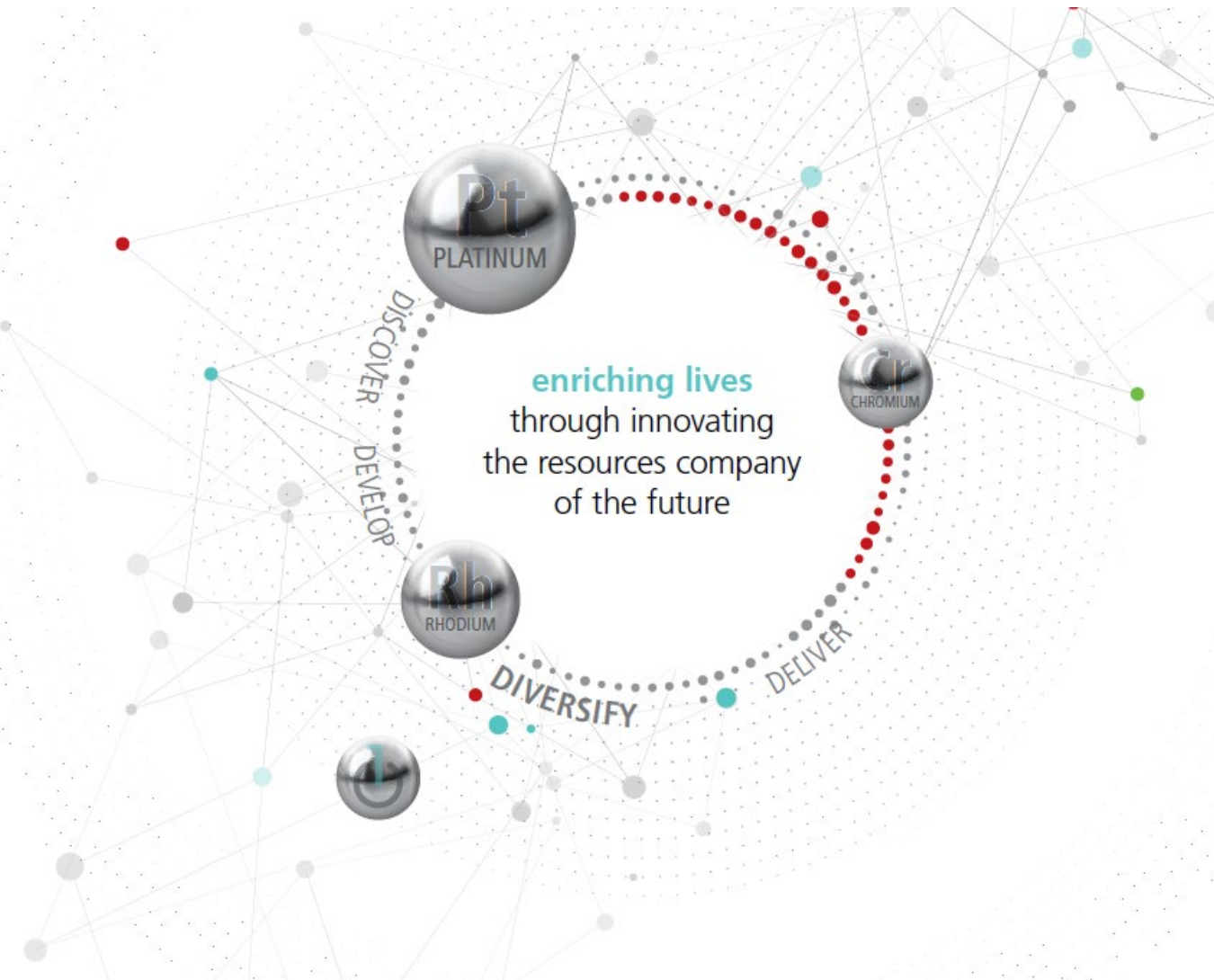
(FY2022: US 7 cents)
17.3% of NPAT

*includes amounts held in financial and other assets
**includes interim dividend of US 3 cents

STRATEGY



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

LONG LIFE PORTFOLIO

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

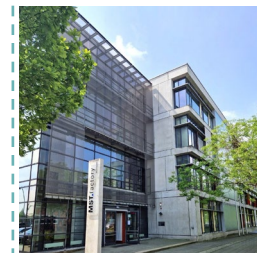
166.2 Mt
IN CONTAINED CHROME

SIGNIFICANT SHALLOW RESOURCES

- 844.8 Mt at Tharisa Mine
 - 13 year open pit life at Tharisa Minerals, reduced by 4 years
 - >60 years underground LOM
- 168.8 Mt at Karo Platinum
 - Open pits for Phase 1
 - Explored ~12% of the 23 903 ha
 - Historical resource of 96.4 Moz (4E) in indicated & inferred 868 Mt

PIT TO PORT STRATEGY

- Control over our own resources with a pit to port strategy
- Capturing value across the entire chain
- Mining, processing, trading, logistics to end customer



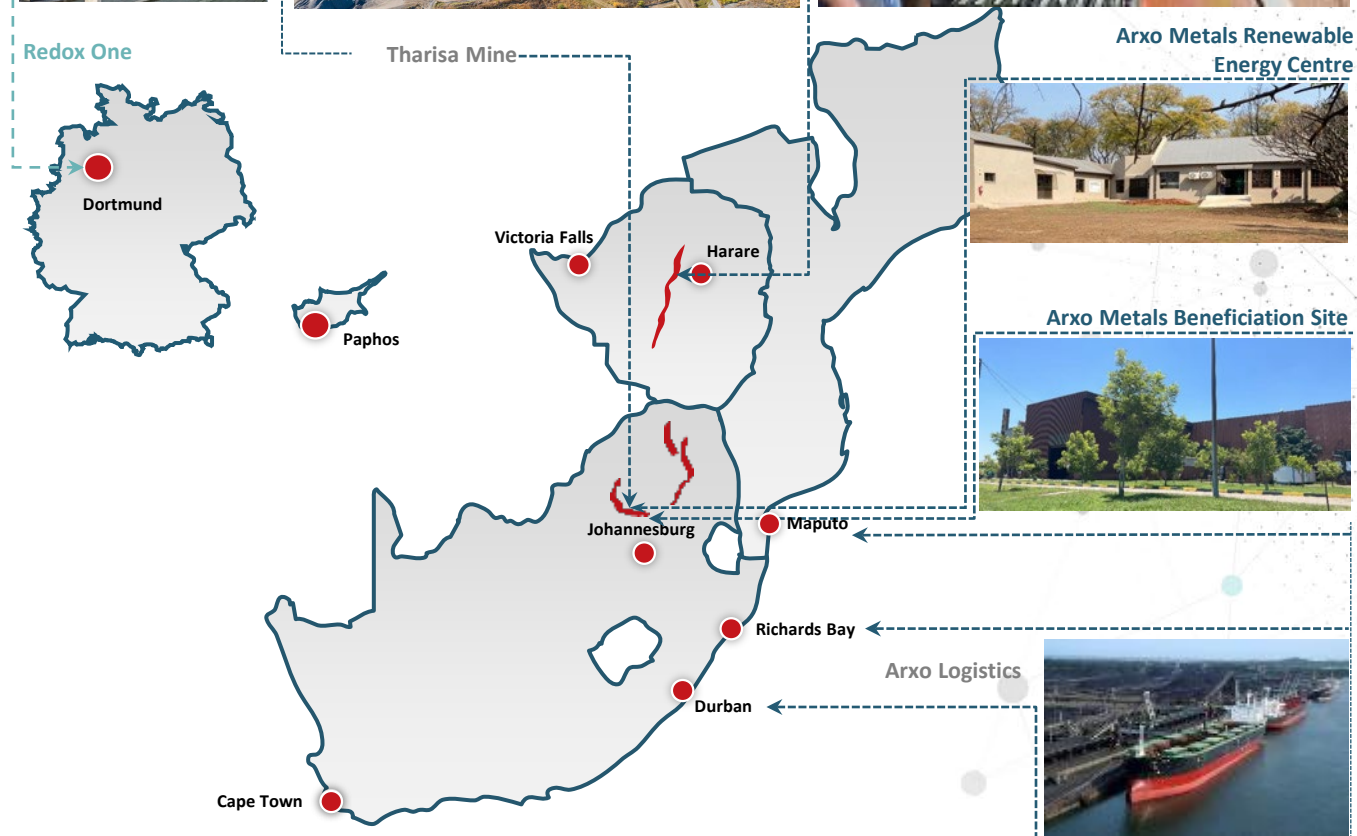
Redox One



Tharisa Mine



Karo Platinum



Arxo Metals Renewable
Energy Centre

Arxo Metals Beneficiation Site

Arxo Logistics

UNLOCKING STRATEGIC FLEXIBILITY AND VALUE

THARISA MINERALS

- Open pit life reduced due to constraints – increased costs, proximity of community and waste rock dump limitations
- Constraints derisked and operational flexibility with successful third party ROM sourcing
- Strategically adapting to environment with detailed assessment of accelerated underground mining
- Modern mechanised underground operation
- Increase in underground reserves to 46.2 Mt as cost inflection point considered
- LOM open pit stripping ratio has reduced to 8.1 m³:m³
- Scoping studies being concluded to access >60 year LOM
- FY2023 spend of ZAR6.1 m
- FY2024 capital includes US\$4.6 m to continue the drilling programme and feasibility studies and design
- FY2025 initiate underground development subject to feasibility
- Open pit yellow fleet replacement capital will be phased out with underground ramping up



KARO PROJECT

PROJECT METRICS

- Tier one asset, first phase under construction
- First phase are open pits, producing ~200 kozpa with significant base metal credits
- Earthworks complete, pilot open pit mining and first concrete June 2023

IMPACT

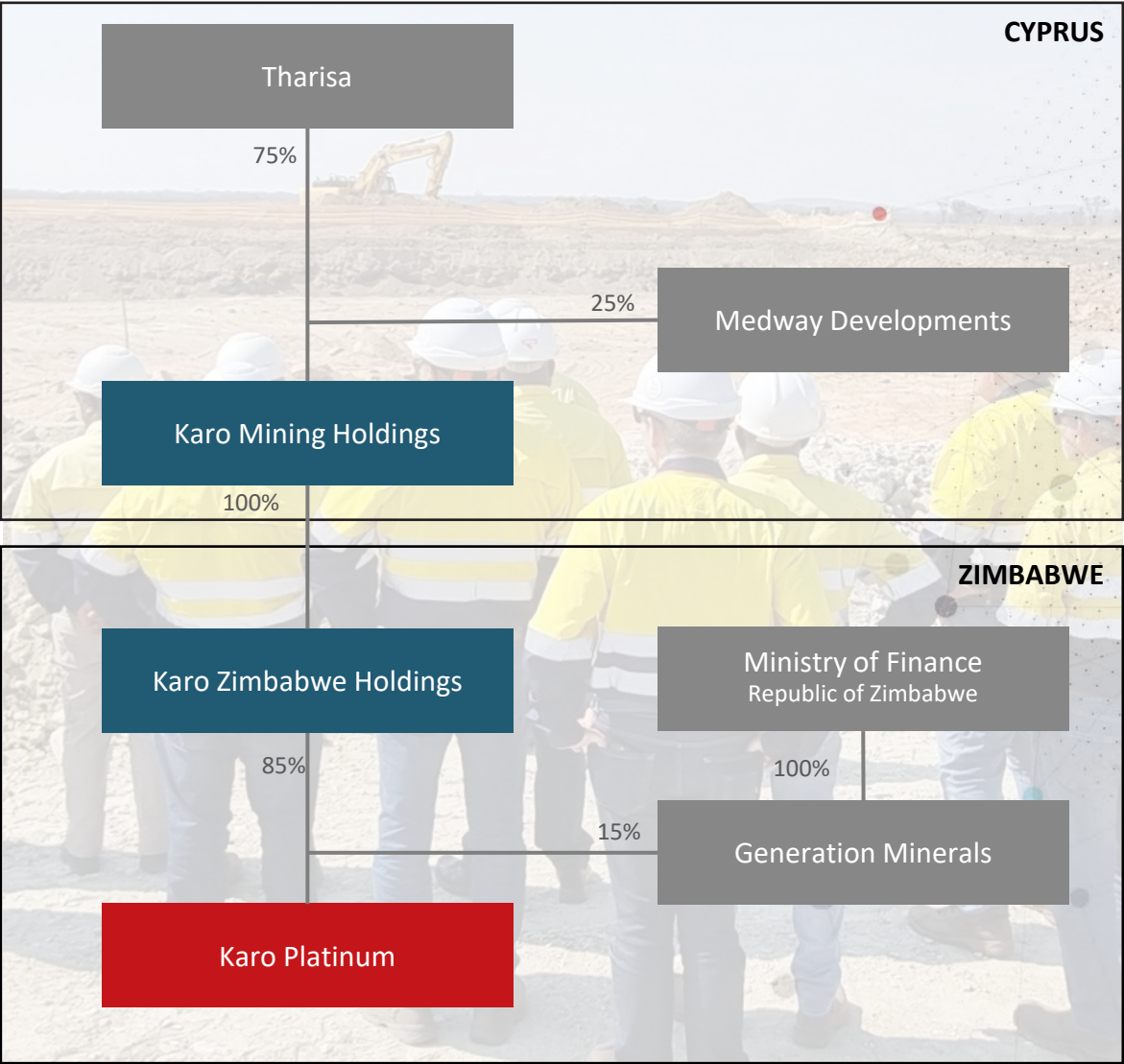
- One LTI to date
- IFC compliant ESIA approved – mining, processing, bulk water and power line
- Prioritising local recruitment (98%) and skills development
- Chariot Transitional Power advancing initial 30 MW solar project
- Supporting health, education and carbon footprint projects

CAPITAL COST

- Total cost to first ore in mill budget of US\$391 m + 12 month extension additional requirement estimated ~10%

FUNDING

- Multiple funding streams with different timing requirements
- Current equity stake increased to 75%
- Tharisa capital allocated with US\$98.6 m invested to date
- VFEX bond listing – raised US\$36.8 m
- Ring fenced project funding:
 - ECIC supported funding – ~US\$160 m
 - Balance funding – working capital, pre-pay, project finance



KARO PROJECT

UPDATE

- Macro and PGM price environment necessitated a review of project timeline with first ore in mill planned for June 2025
- Extended programme has allowed for technical enhancements, plant optimisation and value engineering
- Increased throughput of plant by ~10%
- Additional base metal opportunities under test work
- Continuous optimisation of processing plant recoveries
- Updating underground scoping study



AN ETHOS OF INNOVATION

US\$12.8 m
PPE INVESTED TO DATE

ARXO METALS BENEFICIATION SITE

- Commercial operations for PGM smelting
- Feasibility of full scale operations
- Demonstration scale testing of other initiatives

ARXO METALS TECHNOLOGY DEVELOPMENT CENTRE

- Facility to run laboratory and pilot scale test work
- Focus on downstream beneficiation of PGMs and chrome
- Testing alternative processes on pilot scale

ARXO METALS RENEWABLE ENERGY CENTRE

- Facility focusing energy storage solutions using our commodities including long duration scalable storage solution
- Different renewable technologies are being demonstrated
- AMREC launched in July 2023



Gomolemo Moumakwe
Tapper Assistant

DECARBONISATION

COMMITMENT

- Reduction of 30% in carbon footprint by 2030
 - Carbon net neutral by 2050
-

BUFFELSPOORT SOLAR PROJECT

- 40 MW of solar energy for Tharisa Minerals operations
- Reducing Scope 2 emissions by +30% (+80 000 tCO_{2e} per year)
- Developing with partners TotalEnergies, Chariot Transitional Power and H1 Holdings
- Licensing in place
- EPCM appointed
- Project to be completed Q1 2025
- Pathway to producing greener PGM and chrome concentrates



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

REDOX ONE

PIONEERING SUSTAINABLE ENERGY SOLUTIONS

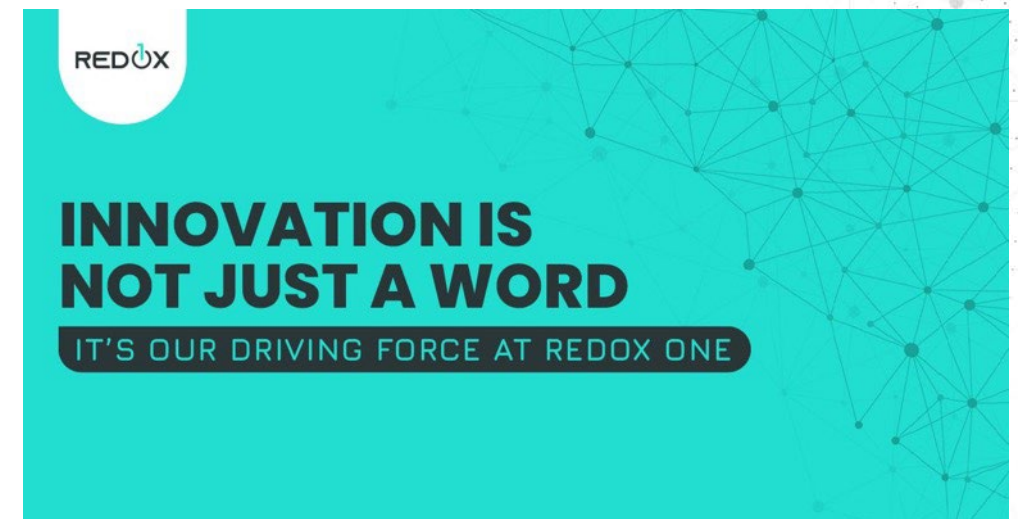
- Safe, innovative, cost-effective power storage solutions
 - Iron chromium redox flow battery technology
 - Mine to megawatt strategy
-

PROVEN TRACK RECORD

- Refined and proven over time, pioneered by NASA in 1970s
 - Technology is proven and demonstrated
 - Proprietary manufacturing process for electrolyte from chromium ore
 - Dedicated energy management team to take to commercialisation
-

STRONG PARTNERSHIPS

- Secured multi generational iron and chromium supply through Tharisa
- System integrators and energy storage integration partners
- Pilot and demonstration customers signed up for MWh installations in 2024

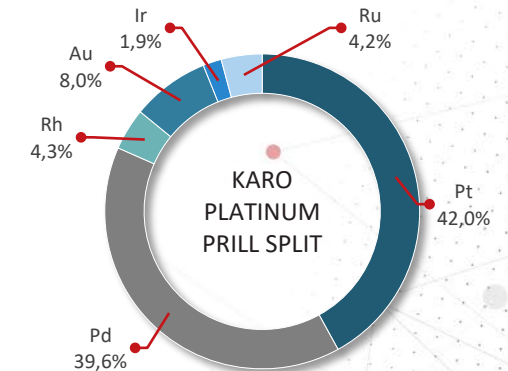
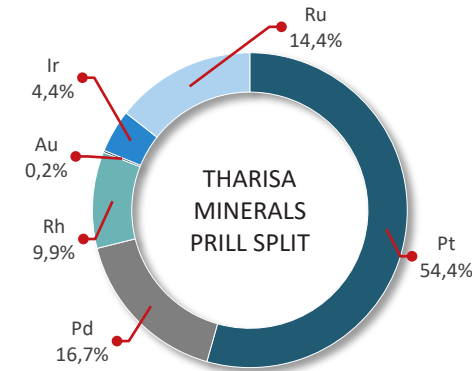


COMMODITIES

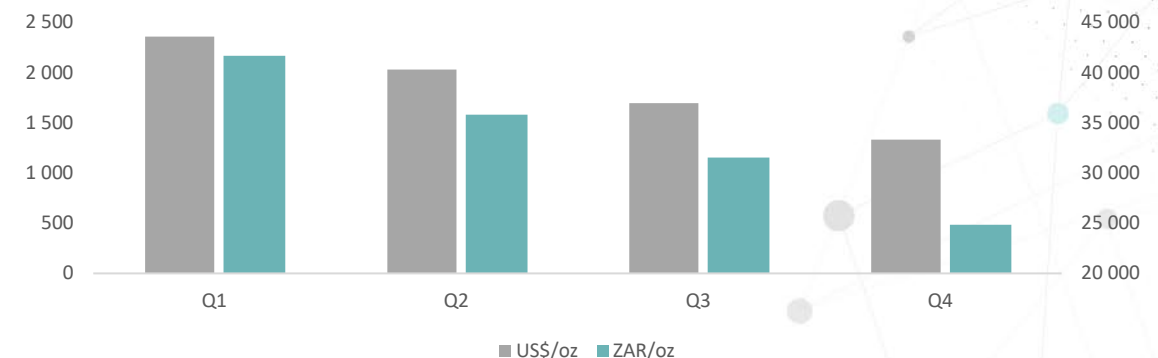
US\$1 404/oz
SPOT PGM BASKET PRICE

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 by 11% – projected 87 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) and (ZAR/oz)

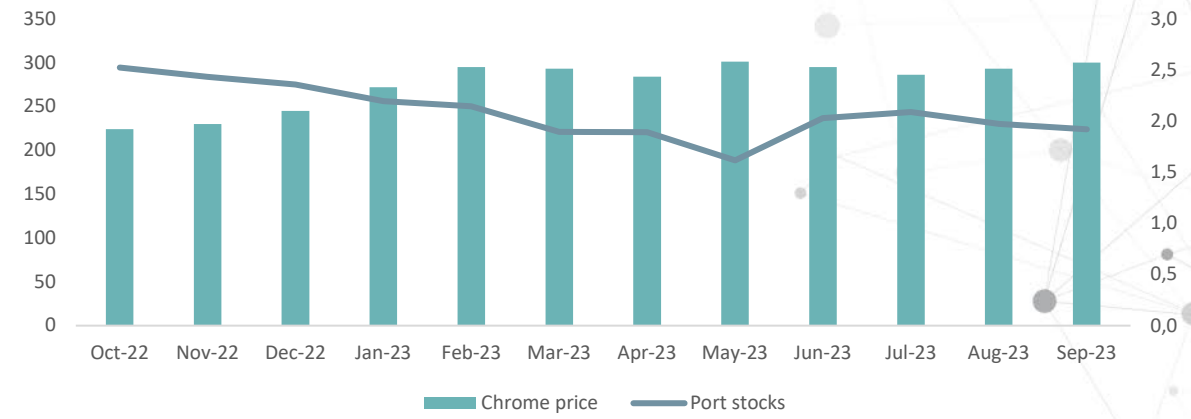


COMMODITIES

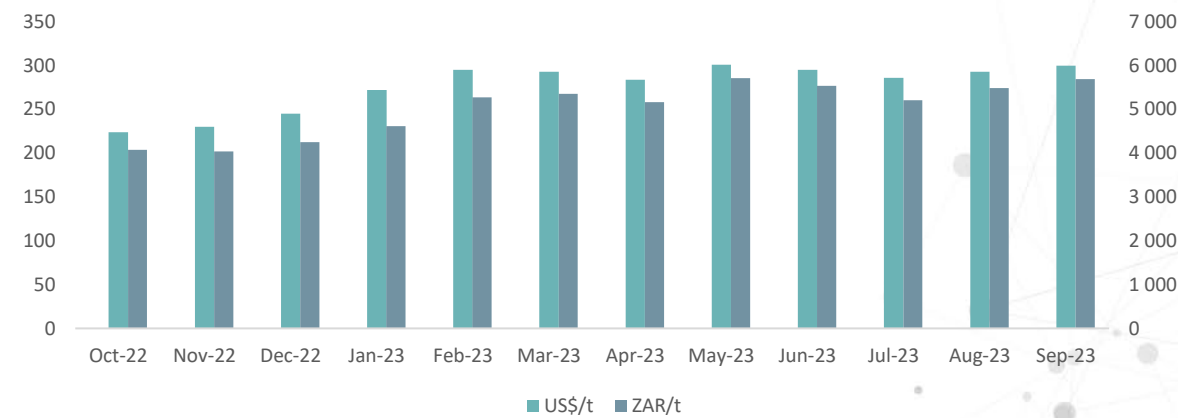
CHROME

- No substitution for chrome in stainless steel production
- Stainless steel demand growth for 2023 of 5% to 8%
- Chrome prices rallying on back of low port stocks and growing stainless steel demand
- Chrome production lower in absolute terms as a result of lower PGM (UG2) output in South Africa, tightening supply-demand balance
- Record Rand spot pricing reached ZAR6 000/t
- South Africa supplies 80% of China’s chrome needs, China has no own chrome reserves
- Tharisa supplies ~10% of China’s chrome demand

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



METALLURGICAL GRADE PRICE
(US\$/t) and (ZAR/t)



FINANCIAL HIGHLIGHTS



STRENGTH OF OUR CO-PRODUCT STRATEGY



MULTI COMMODITIES

- Co-production model
- Polymetallic basket of strategic minerals
- Low-cost producer



CASH FLOW GENERATIVE

- Net cash flows from operations of US\$148.3 m
- Enabling continuous investment through the cycle
- Consistent dividend policy



NEW DEBT FACILITIES

- Successfully concluded US\$130 m debt facility
- VFEX bond – subscription of US\$36.8 m
- Agreed term sheet – Karo Platinum project finance facilities



CONTINUED INVESTMENT

- Investment for the future – capital spent US\$97.1 m
- Net cash position, ability to continue developing growth projects

MULTI COMMODITY REVENUE STREAM

US\$649.9 m

Revenue decrease of 5.3%

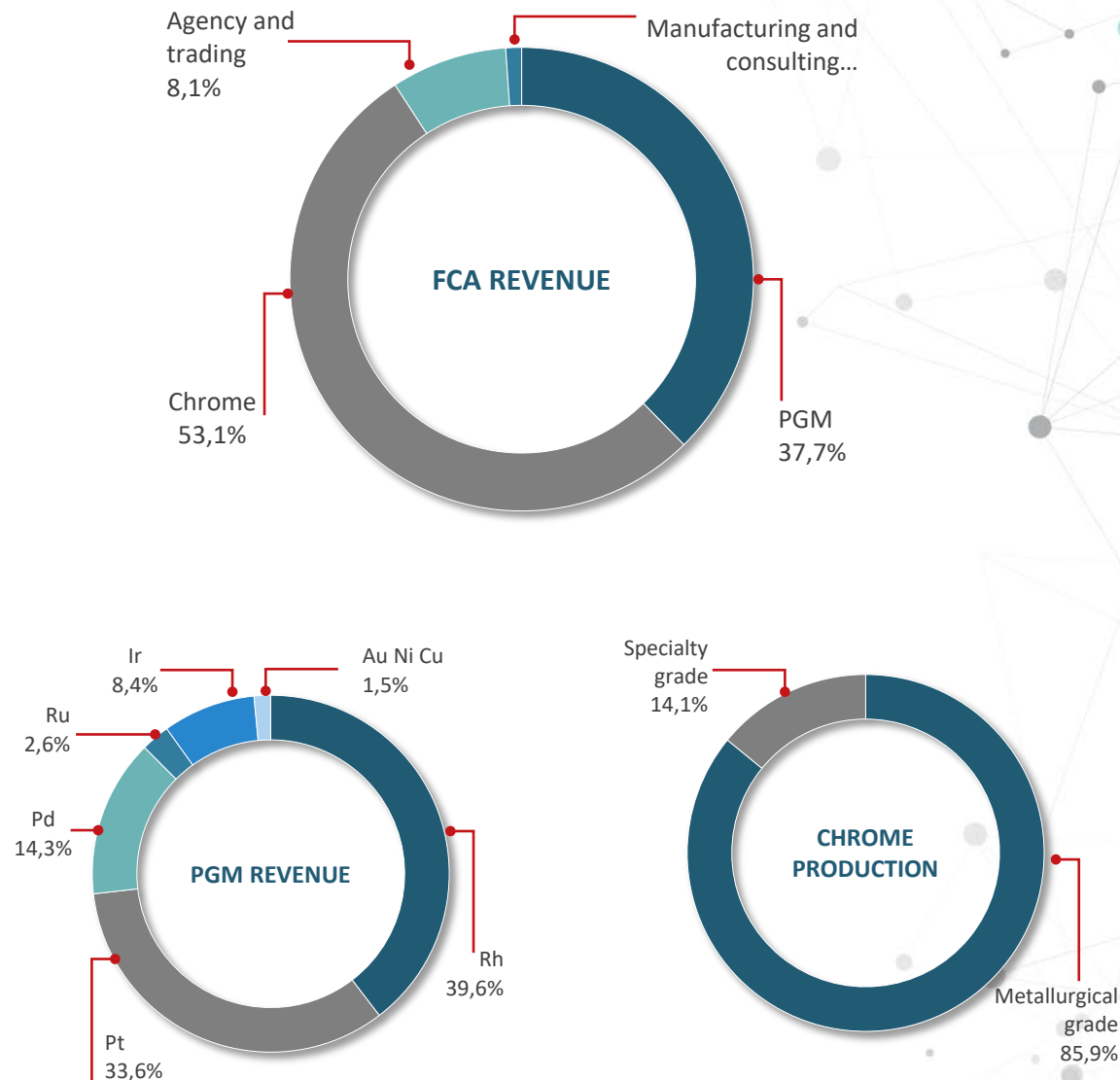
Benefits of co-production model

PGM sales of 144.0 koz

Average PGM basket price of US\$1 893/oz

Metallurgical grade chrome sales of 1 319.3 kt

Average chrome price of US\$263/t



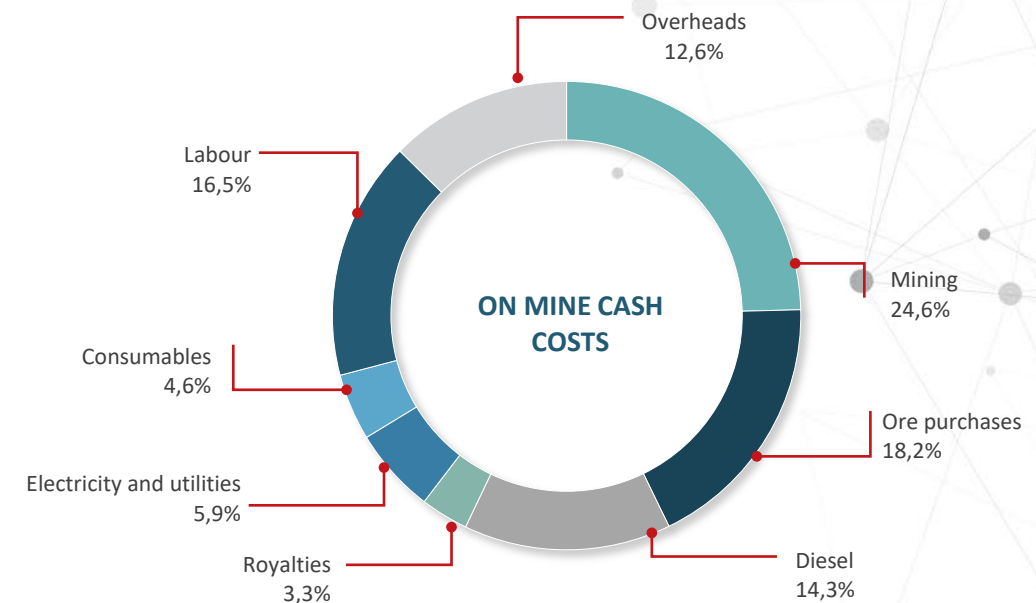
UNIT COSTS

	Units	FY2023	FY2022	% change
Cubes mined	Mm ³	15.6	20.9	(25.2)
Cost per cube mined*	US\$/m ³	10.4	8.5	22.1
Reef tonnes mined	Mt	4.2	5.5	(24.1)
Cost per reef tonne mined*	US\$/t	38.8	32.4	19.9
Tonnes milled	Mt	5.4	5.6	(3.5)
On mine cash cost per tonne milled [#]	US\$/t	56.7	46.4	22.2
Consolidated cash cost per tonne milled [#]	US\$/t	62.2	52.9	17.7
Chrome inland logistics and freight costs	US\$/t	81.4	92.5	(12.0)
Exchange rate	US\$:ZAR	18.2	15.8	15.2
All in cost per PGM ounce sold (4E)^	US\$/oz	72.3	1 587.7	
All in cost per PGM ounce sold (6E)^	US\$/oz	206.7	1 429.9	

Deferred stripping of US\$4.4 m

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

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



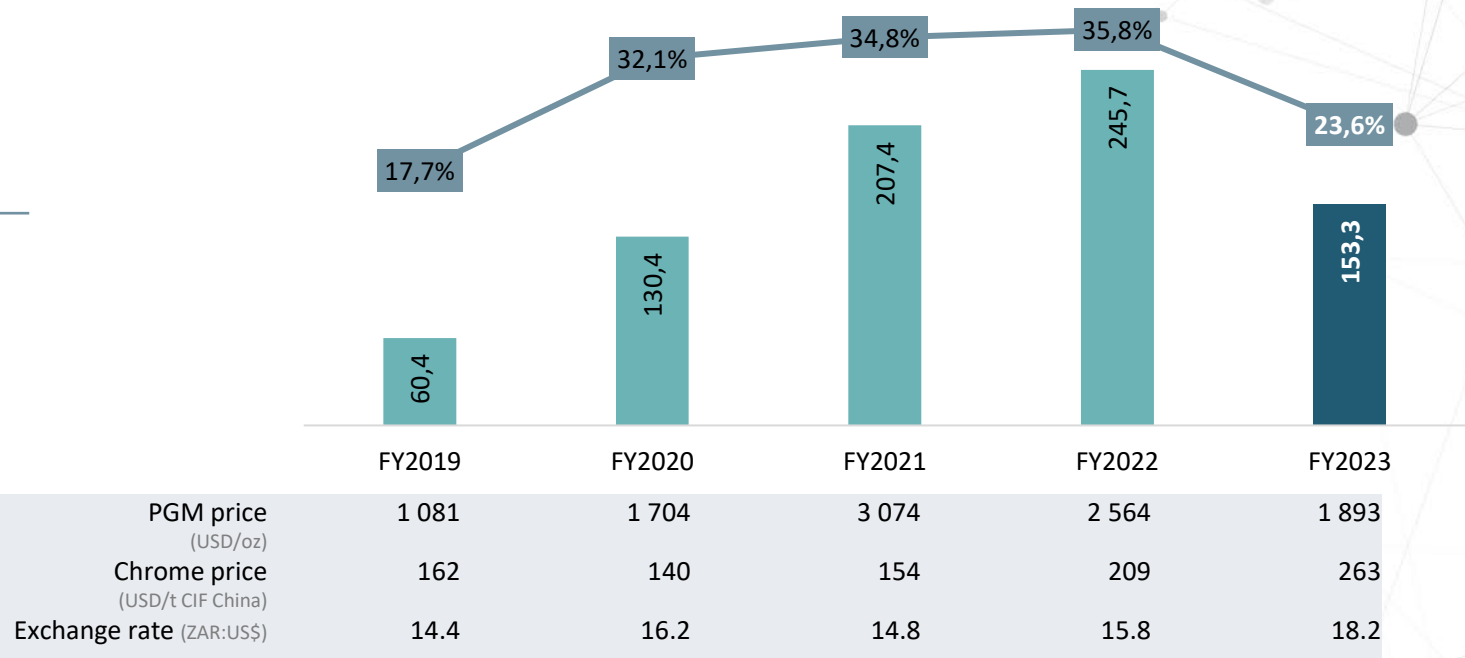
ROBUST GROSS PROFIT

US\$153.3 m

Gross profit decrease of 37.6%

Weakening ZAR to US\$ exchange rate of 15.2% partially offset inflation
Robust gross profit margins despite ZAR input cost pressures

GROSS PROFIT AND MARGIN
(US\$ m)



EARNINGS STACK UP



INVESTING IN THE FUTURE

US\$97.1 m

Total capital spent

Sustainable operations enabled by continued investment in asset base
Includes US\$46.3 m capital spent on Karo Platinum for FY2023

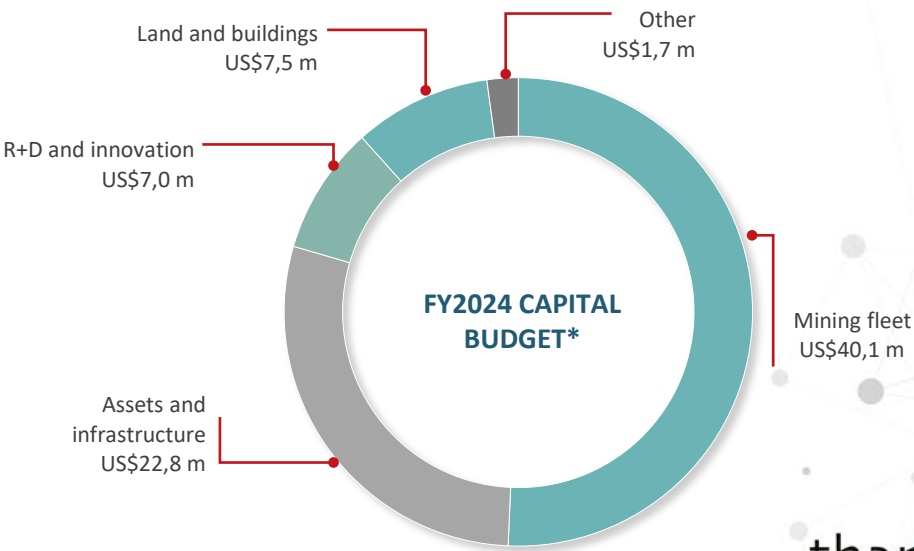
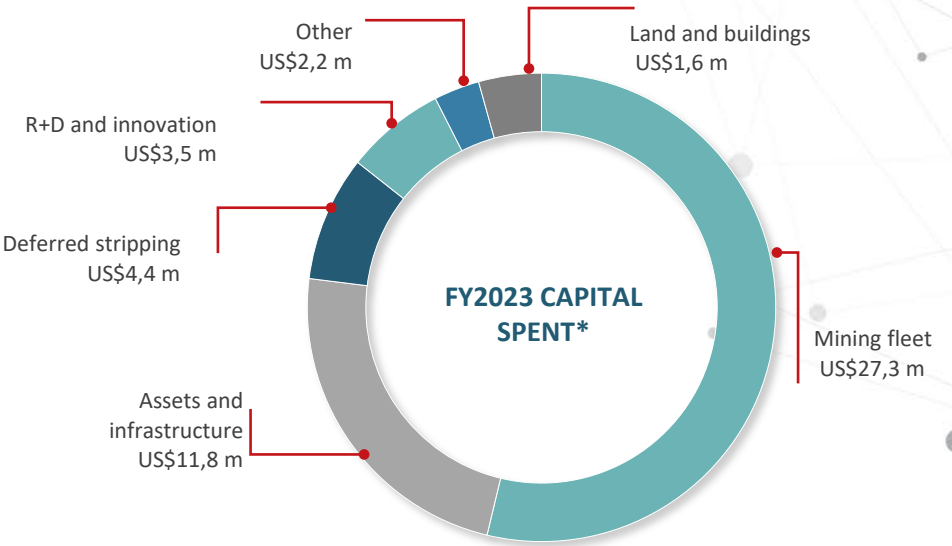
US\$79.1 m

Capital budget for FY2024 excluding Karo Platinum

Excluding deferred stripping
Karo Platinum total capital of US\$391 m + ~10% for extended schedule
Karo Platinum FY2024 capital spend budgeted at US\$244 m, subject to ring fenced funding
Tharisa capital allocated with US\$98.6 m invested to date, with balance of Tharisa equity commitment to flow

+US\$580 m

Capital spend over a decade resulting in sustainable operations



BALANCE SHEET

US\$269.0 m

Cash and cash equivalents*

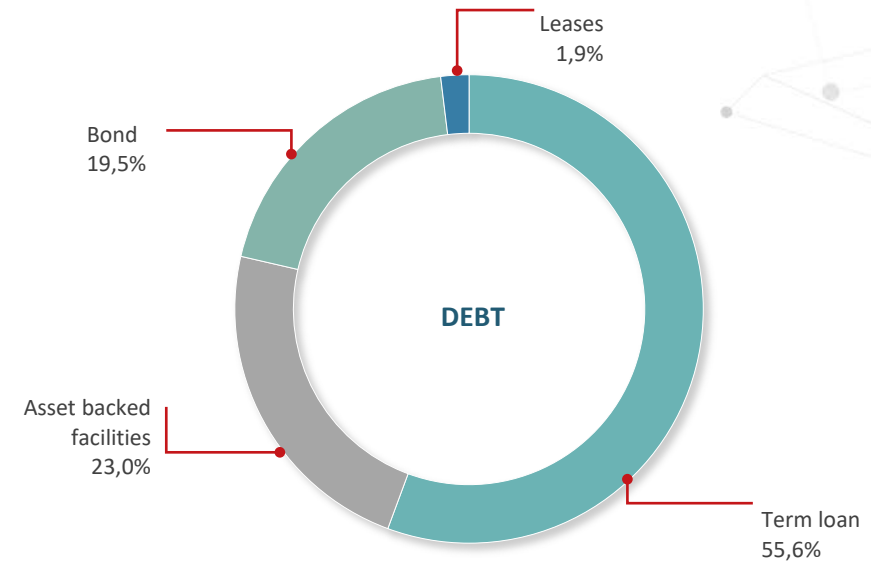
Cash generative despite inflationary pressures
Net cash flow from operations of US\$148.3 m
Net cash of US\$129.4 m*

US\$139.7 m

Total debt

Short term US\$63.3 m
New debt facilities
12 month rolling hedge on Pt and Pd for capital requirement
90.4% USD denominated debt and 9.6% ZAR denominated
Current ratio of 2.2
Net debt to EBITDA of (0.9x)
Net debt to equity (19.2%)
Undrawn facilities of US\$81.4 m and US\$20 m in trade finance

*including restricted cash held in financial and other assets



14.1%
NAV GROWTH

RETURNS TO SHAREHOLDERS

US 5 cents

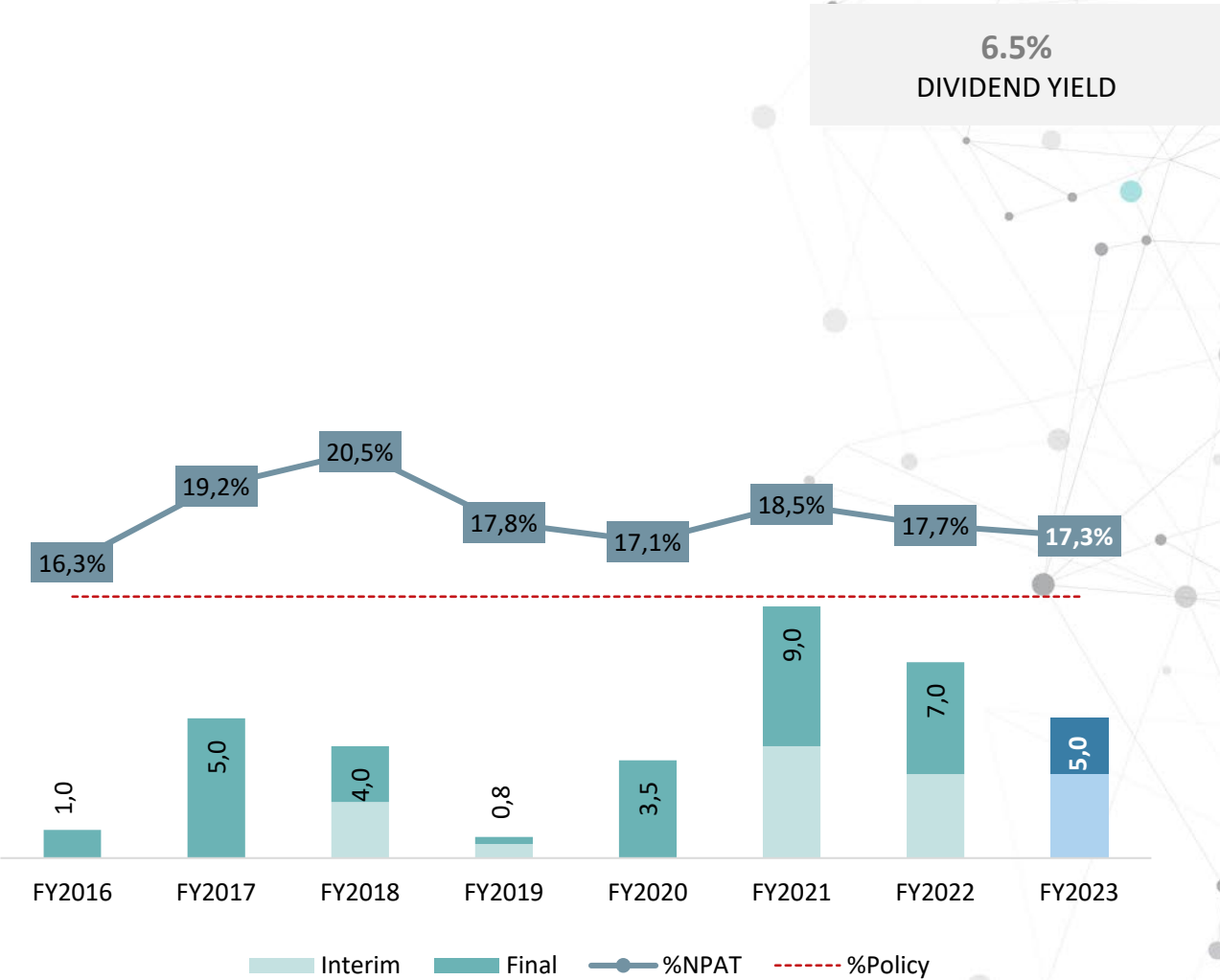
Proposed total annual dividend

17.3% of NPAT
Policy minimum of 15% of NPAT

US\$97.6 m

Cumulative distributions to shareholders over 8 years

Commitment to capital discipline



GUIDANCE & VALUE PROPOSITION



GUIDANCE

FY2024 GUIDANCE

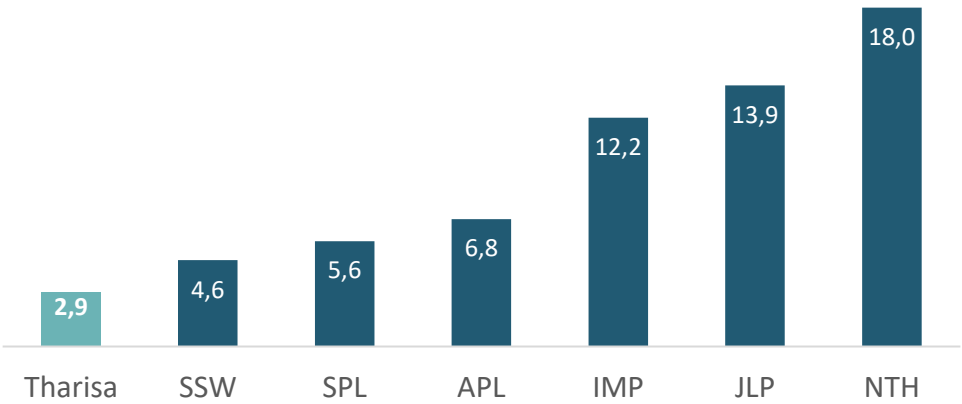
- PGMs (6E basis) of 145 koz to 155 koz
- Chrome concentrates of 1.7 Mt to 1.8 Mt
- Karo Platinum
 - Project extended by 12 months FOIM June 2025*
 - ECIC supported funding in process

*subject to funding and market conditions

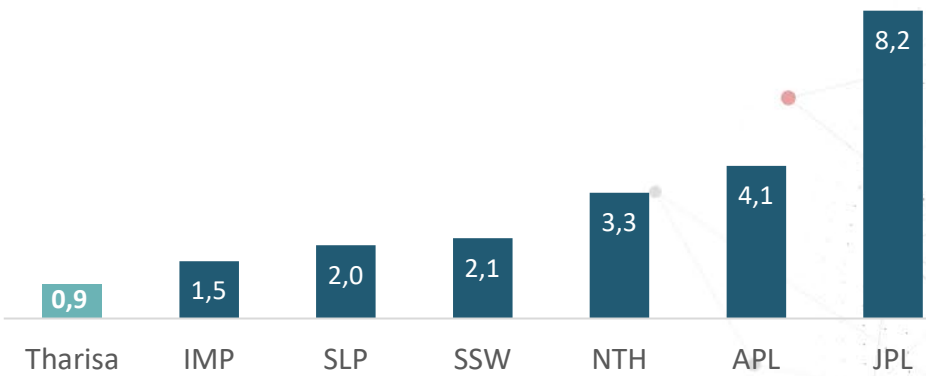


COMPARABLE

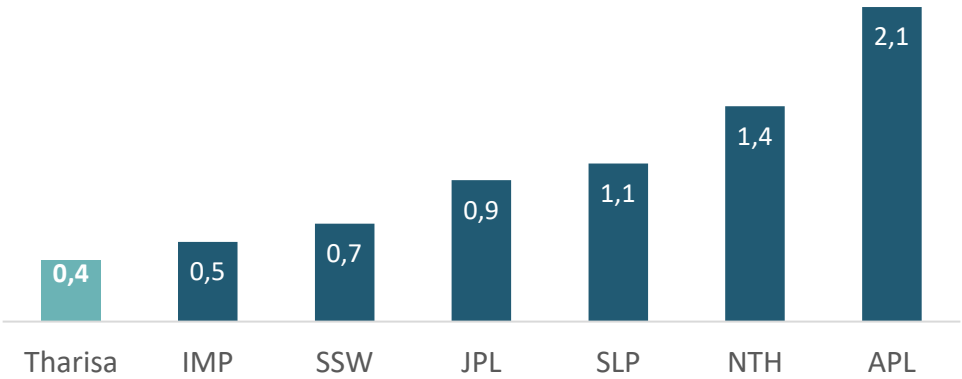
P/E



EV/EBITDA



P/Book value



Source: CapIQ

VALUE PROPOSITION

0.3 x
P/NAV

2.9 x
P/E

Strategic commodities

Co-producer of PGMs and chrome concentrates, mine two strategic commodities with diversified applications for these commodities, ensuring a geographically multi-faceted buyer and user base

Output to double at long life assets

With a decade and a half history of production growth at Tharisa and with Karo under development, our PGM output is set to nearly double. Added to our significant chrome production, we provide multi-generational assets of strategic commodities

Operational flexibility

The mechanised nature of the open-pit operation means we remain within the lower cost quartile of PGM and chrome producers, with an orebody showing consistency over the past decade of production. We are set to replicate the operational makeup at Karo, where construction of this Tier 1 asset is underway

Diversification, beneficiation and energy transition

With the construction of our newest PGM asset at Karo Platinum, diversifying the Company's portfolio AMBS has grown significantly, further proving our technology and developing many commercially ready alloys and using our raw materials. This includes chrome for our innovative redox flow technology as one part of our energy transition roadmap

Integrated marketing and sales with logistical support

An integrated marketing platform for the sales to ferrochrome producers, stainless steel producers, and global commodity traders. Metallurgical chrome concentrate is mainly shipped to China and Indonesia, where it is utilised primarily by the stainless-steel industry, with specialty chrome concentrates, being sold into global markets

Capital discipline

Tharisa had a cash balance of US\$269.0 m at the end of the year and debt of US\$139.7 m, resulting in a positive net cash position of US\$129.4 m. The Company's balance sheet, positions it to fund its growth aspirations while simultaneously reinvesting into the business





QUESTIONS

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