



Strategy



01

# STRATEGY

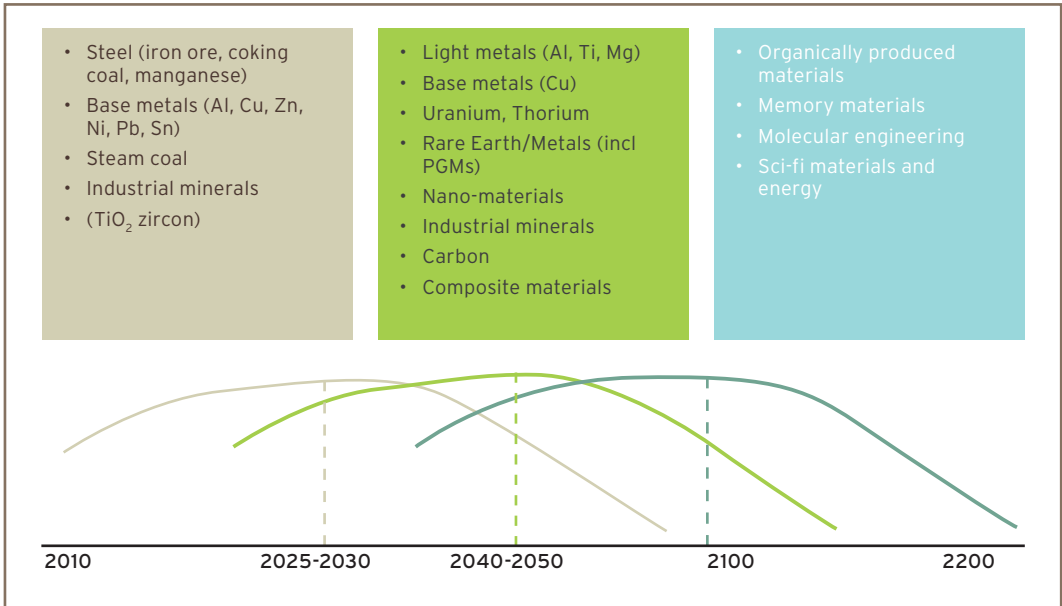
## FOCUS ON INNOVATION AND THE NEXT PROGRAMME

The world is developing and changing at a phenomenal rate and, together with even greater

technological advancements, the resources industry will need to drastically adapt to supply the

necessary resources that will remain in high demand to sustain and improve our way of life.

### THE RIGHT COMMODITIES BASED ON FUNDAMENTALS



The predicted demand trend in materials is illustrated above. Other future trends relevant to the mining industry are increasing pressure on licence-to-operate aspects (social and environmental), automation, ever-reducing ore quality, more complex and remote ores bodies and step changes in technological innovation. To align our business to these future requirements will present substantial new challenges and opportunities.

The current methods we use to extract and beneficiate resources may become unsustainable far sooner than we envisage. This presents a significant

opportunity for Exxaro to lead the industry through innovation for sustainability.

Since 2010 Exxaro has been working on an innovation programme to make systematic innovation part of the group's DNA. Under this banner, the NEXT (new Exxaro tomorrow) project is aimed at bringing to life Exxaro's vision of "Through our innovation and growth we will be a powerful source of endless possibilities"

#### The NEXT journey

To conceptualise a thriving Exxaro in future, the world and industry of 2030 were envisaged (overleaf), based on key design criteria

derived from global and industry megatrends, as well as disruptive technologies.

Senior managers have been assigned to oversee detailed research in specific areas for application in Exxaro. Known as strategic thrusts, these are aligned to our strategy and are providing a roadmap to move from our current state to an optimum, sustainable mining state.

Our strategic thrusts include long-term planning in:

- Smart exploration: focuses on new and developing exploration methods and technologies to accurately define and model the

## NEXT PROGRAMME OVERALL TRANSITION ROADMAP

### 2013

- Increasing shareholder expectations (profits)
- Extreme escalation in operating costs
- Rapid technological innovation, ie IT/Coms
- Increased pressure on social and regulatory compliance
- Unbalanced relationship between government, community and mining
- Current core processes sub-optimised (exploration, geology, mining processing and logistics)
- High levels of waste and discard materials from production
- High impact on environment and insufficient rehabilitation
- Fossil fuel-based economy/carbon emissions
- Energy supply/cost constraints  
Limited focus on downstream beneficiation
- Current workforce ill-equipped for the future (high levels of semi-skilled employees, shortage of highly skilled employees)
- Communities dependent on mining activities

### 10 STRATEGIC THRUSTS

- Smart exploration
- New mining technologies
- New processing technologies
- Asset management/ logistics
- Clean coal technologies
- Innovation to zero harm
- Social responsibility
- Sustainable energy
- Automation
- Integrate/redefine value chain

### 2030

#### Sustainable licence to operate:

- Creating inclusive wealth – all stakeholders
- Balanced and sustainable partnership between government, community and resources industry
- Small footprint/limited environmental impact
- Self-sustaining economically viable community > beyond life of mine

Smart exploration: accurate, predictable, instant, information and models

100% resource extraction

Zero waste

Zero harm – safety/health

Energy, carbon and water-neutral

Workforce equipped to support the 2030 business

Hybrid/renewable/alternative energy solutions

Capitalise on trend of advanced/light materials/metals

Integrated, optimised and redefined value chain

- ore body and perform efficient resource characterisation
- Next-generation mining processes: focuses on new mining methods and technologies to maximise production and efficiency, decrease cost and allow recovery of difficult reserves
- Next-generation processing: focuses on new processing methods and technologies that will increase the mineral recovery, minimise waste, and are much more water and energy efficient
- Logistics and physical asset management: an integrated approach to manage all assets and the logistics chain, while

- examining possibilities to improve performance, risk management and expenditure over the total life cycle
- Clean-coal technology: technologies that increase the efficiency of coal use and reduce the environmental impact of coal on emissions, water pollution and waste
- Automation: an integrated platform to manage production information and automated equipment to maximise the value of the entire operation along the value chain
- Innovation to zero harm: ensures zero harm to employees and communities, and minimises environmental impact

- Social responsibility: focuses on equipping employees for the future and co-creating a sustainable economic environment for mining communities beyond the life of mine
- Sustainable energy: focuses on optimising energy consumption as well as maximising energy generation and recovery opportunities at current and future operations
- Redefining the value chain: improves the value chain by implementing innovative solutions and redefining and integrating the current value chain, including downstream processing and by-products.

# STAKEHOLDER ENGAGEMENT

## Broader industry participation

As a stakeholder in the mining industry, Exxaro actively participates in shaping appropriate policies in South Africa through many channels, including:

- The Chamber of Mines
- JSE Limited and Computershare forums
- National Energy Regulator of South Africa (NERSA)
- Energy intensive users group (EIUG)
- National electricity response team (NERT)
- Energy efficiency accord through the technical committee facilitated by the National
- Business Institute (NBI)
- Industry energy policy-influence workshops

- World Wildlife Fund (WWF) round table event
- South African Chamber of Commerce and Industry's (SACCI) electricity dialogue
- SANBI (South Africa National Biodiversity Institute).

Exxaro is also involved in the initiatives of:

- South African Independent Power Producers Association (SAIPPA)
- Coaltech 2020
- Fossil Fuel Foundation
- Peace Parks Foundation (over R12 million to date)
- SA Centre for Carbon Capture and Storage with international and local partners
- Clinton Foundation.

In terms of research and advocacy, Exxaro funds several university chairs (detailed on page 28), including:

- Business and climate change (Unisa)
- Energy efficiency (Pretoria)
- Global change and sustainability (Wits)
- Business and biodiversity leadership (Pretoria).

## Commitment to external initiatives

Integral to our goal of leadership in sustainability, Exxaro actively participates in initiatives that benefit both the industry and South Africa.

Initiative	Purpose	Progress
Community health project	To create HIV awareness and encourage HIV testing in communities surrounding our business units. We aim to create an environment that has no stigma against people living with HIV/Aids	Projects initiated at Arnot, Leeuwpan and North Block Complex in 2010, followed by Inyanda, Matla and New Clydesdale in 2011. In 2012, Grootegeluk, Reductants and Tshikondeni implemented this initiative. Community activities include awareness and home-based care
Exxaro chair in earth science at University of Pretoria	Encourage research and dialogue	Support provided until 2013
University of Pretoria community-based project module	Compulsory community module for second year engineering students	Student support of community projects run by business units
Mineral Education Trust Fund	Pool industry resources to support tertiary education in the South African minerals industry and jointly seek solutions to related challenges	Annual contribution of over R2 million
National Business Initiative	To ensure a coordinated response to issues such as climate change and water	Corporate membership  Exxaro participates in the Carbon Disclosure Project (CDP) programmes for energy and water to ensure responsible stewardship
People development initiative	Bridging year to prepare students for tertiary education in mining-related studies as well as sponsorships in the fields of education, health and entrepreneurial studies	Annual funding of over R1 million