

# > RISKS AND OPPORTUNITIES

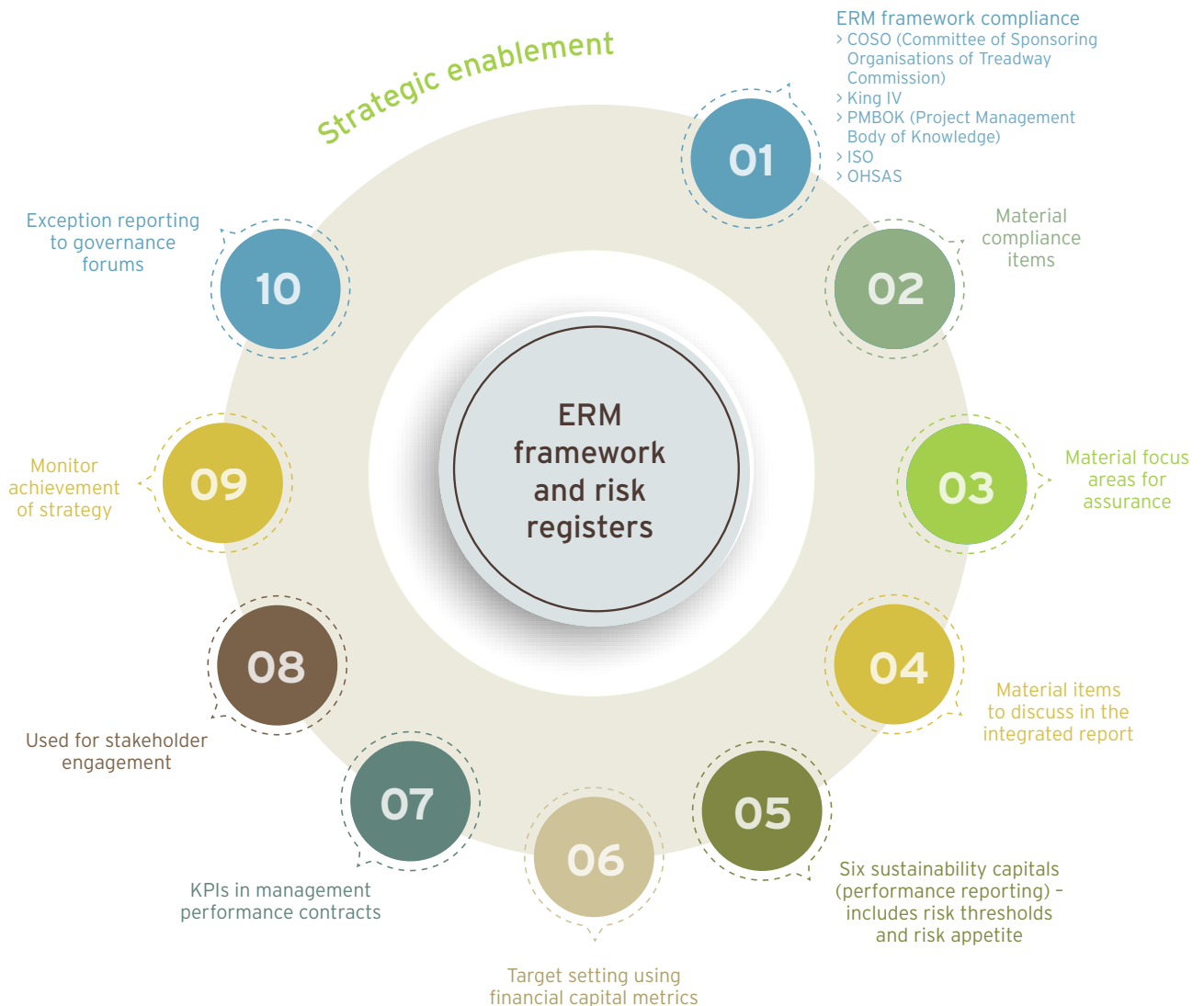
## Context

As a mining company, Exxaro recognises that risk is inherent in all its business activities. The company has remained resilient over recent years due to its robust risk management, compliance management and integrated assurance process, despite geopolitical uncertainty, macro-economic challenges and the volatility in commodity prices since 2015.

The sustainability, risk and compliance (SRC) committee, on behalf of the board, is responsible for regularly monitoring risks that would have an extreme impact on the group if they materialise.

Extreme risks, together with their controls, are considered critical in the ever-changing environment in which we operate. These are continually monitored and reviewed in line with the risk appetite framework and combined assurance approach. The board also uses strategic, tactical and operational risks facing Exxaro as input during the annual strategy session where identified risks are used to guide the conversation in setting the strategy and risk appetite as well as approve quantification of the strategy in a five-year budget period.

The SRC committee and all management teams promote a culture of good governance and risk management as these are critical to be a sustainable organisation.



Enterprise risk management (ERM) involves the systematic application of management policies and procedures to the activities of communicating, consulting, establishing context, and identifying, analysing, evaluating, treating, monitoring and reviewing risk. At Exxaro we understand that effective risk management can only occur when a proactive risk culture has been created, where everybody understands that they have a role in managing risks in their environment.

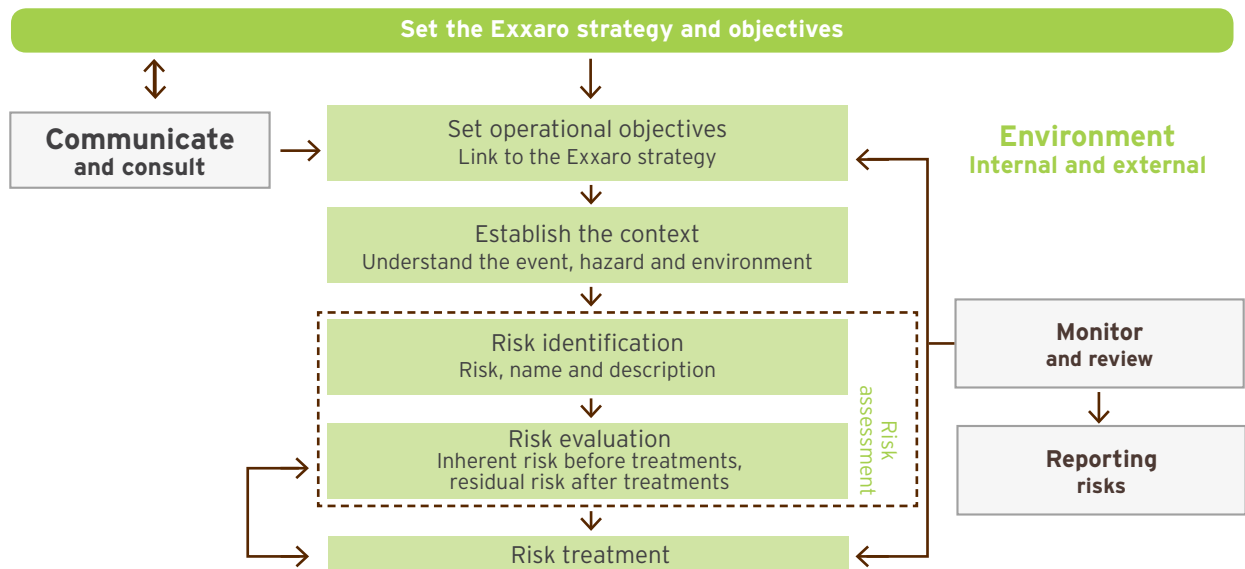
ERM methodology is therefore applied across all functional areas and considers all hazards/root causes as well as all potential impacts (financial, operational, stakeholder, legal/compliance, safety, health and environment) that the risk

event may trigger. Exxaro does not have a separate risk methodology for every impact or functional area as this would undermine true integration and building a risk culture.

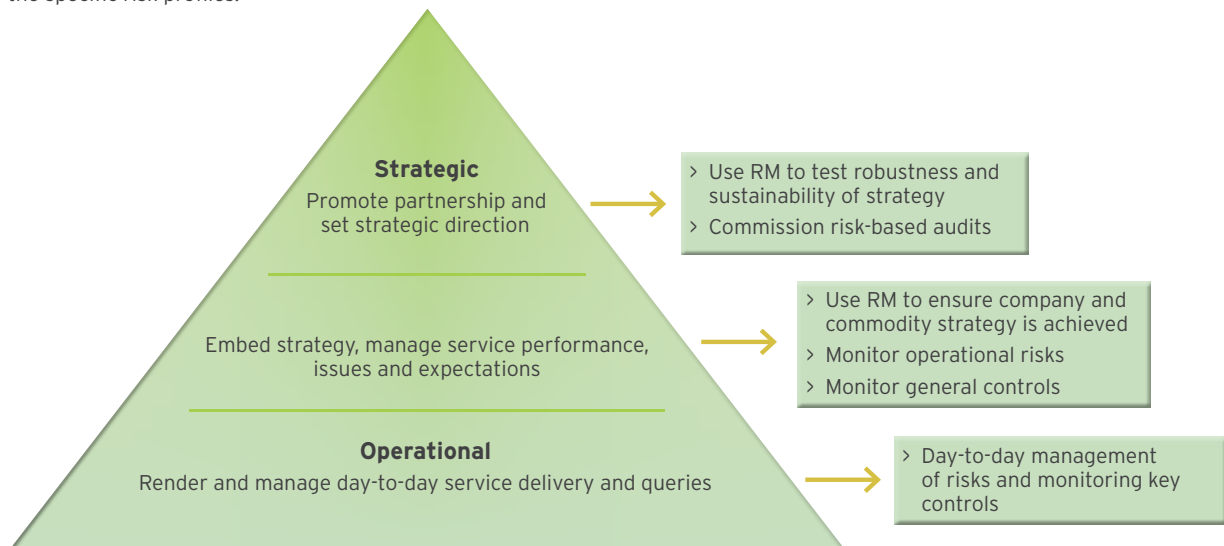
Risk owners are in place across all layers for every risk and accountable for ensuring the appropriate risk strategy is implemented. Control owners are appointed for every control and report to risk owners on the maintenance of controls and implementation of action plans.

Exxaro has reviewed its strategic risks. Changes to the risk ranking reflect changes in the internal and external environment by using the robust risk process illustrated below:

**Layered approach**



Risk management is performed at each layer with a different scope in mind. Each layer informs the next and is used as input to the specific risk profiles.



# RISKS AND OPPORTUNITIES (CONTINUED)

## Pursuing opportunities

The Exxaro risk management framework also caters for identification and realisation of opportunities in the organisation. We believe that, for Exxaro to remain sustainable in the near future, it is important to adapt to change and identify and pursue possible opportunities to ultimately create value for our shareholders.

The following opportunities have been identified as part of the business of tomorrow strategy (opportunities beyond the mining sector):

	OPPORTUNITY	STRATEGY
1	Microgrids	Energy: distributed energy generation
2	Optimising electricity use through analytics	Energy: energy analytics
3	Open facilitated energy trading	Energy: energy exchange
4	Insect protein from biowaste	Agriculture: alternative agricultural products
5	Farming at the retailer/small-farming aggregation	Agriculture: bring farmers closer to market
6	Innovative leak repair	Water: water saving
7	Leak detection and pressure monitoring	Water: water saving

## Risk appetite and thresholds

Exxaro defines risk appetite as the tendency of a group to take risks in a given situation and risk thresholds are used to express our appetite. We understand that if we really want to create value for all our stakeholders and remain sustainable, we need to measure and report on our key performance indicators.

The board and executive committee monitor KPIs quarterly to ensure all risks and key metrics are within Exxaro's risk appetite. The KPIs and their thresholds are reviewed by the board and executive committee at least annually. Please refer to KPIs on page 6.

## Historical risks and trends

Over the last three years, there has been no significant change in the risk profiles of mining companies generally. Exxaro has identified new risks in 2017 as indicated in the trend report below.

### Top 15 Exxaro risks over the last three years

RANKING	2015	2016	2017
1	Dependency on Eskom as a key customer	Key dependency on customers	Dependency on Eskom and ArcelorMittal South Africa (AMSA) as key customers
2	Unavailability of electricity	Safety concerns	Continued policy and regulatory uncertainty
3	Safety concerns	Commodity price volatility	Maintain a social licence to operate
4	Commodity price volatility	Inability to be innovative	Capital project execution
5	Inability to meet production demands	Uncompetitive products (cost/tonne)	Safety and health concerns
6	Unavailability of water	Health concerns	State capture
7	Infrastructure capacity, access, development and funding	Ineffective capital project execution	Fraud and corruption
8	Competitiveness of assets (cost/tonne)	Maintain a social licence to operate	Rehabilitation liability
9	State intervention in mining sector	Legal and regulatory non-compliance	Water allocation and shortage
10	Capital project execution	Labour unrest	Community unrest
11	Mine rehabilitation	Product substitution	Price and currency volatility
12	Government bureaucracy	Unable to meet production demands	Unable to meet production demands
13	Compliance to environmental legislation	Stranded assets	Cost competitiveness of products
14	Maintain a social licence to operate	Fraud and corruption	Infrastructure capacity and access
15	Inability to accurately calculate financial provision for environmental closure	Compliance to environmental legislation	Competition and product substitution

# RISKS AND OPPORTUNITIES (CONTINUED)

## Trends

The trend report ranks risks from highest residual risk rating to lowest residual risk rating and compares FY16 with FY17. The residual risk score is the risk remaining after considering the existence and effectiveness of controls in place.

RANK	STRATEGIC PILLAR	RISK	2016 RESIDUAL RISK SCORE	TREND	2017 RESIDUAL RISK SCORE	COMMENT
1	Portfolio excellence Marketing excellence	Dependency on Eskom and AMSA as key customers	77	↓	76	Collective potential impact based on percentage of offtake and revenue, contractual obligation to fund capital commitments at tied mines, and contractual contributions for rehabilitation of tied mines
2	Portfolio excellence	Continued policy and regulatory uncertainty	*	New in top 10	53	Delays and (often) lack of constructive consultation with industry stakeholders in finalising charters, legislation and regulations
3	Safety and sustainability excellence	Maintain social licence to operate	46	↑	49	Onerous requirements in mining charter and BBBEE codes (dti)
4	Capital management excellence	Capital project execution	49	→	48	Significant capital profile in next five years
5	Safety and sustainability excellence	Safety and health concerns	73	↓	43	Lower residual risk rating due to effectiveness of corrective and preventive controls to potential impacts and likelihood of occurrence of safety and health risks
6	Safety and sustainability excellence	State capture	31	New in top 10 ↑	41	Adverse media reports on individuals, institutions and entities implicated in allegations of state capture, parliamentary enquiries, and lack of accountability - all potentially compromising the political and economic stability and sustainability of South Africa

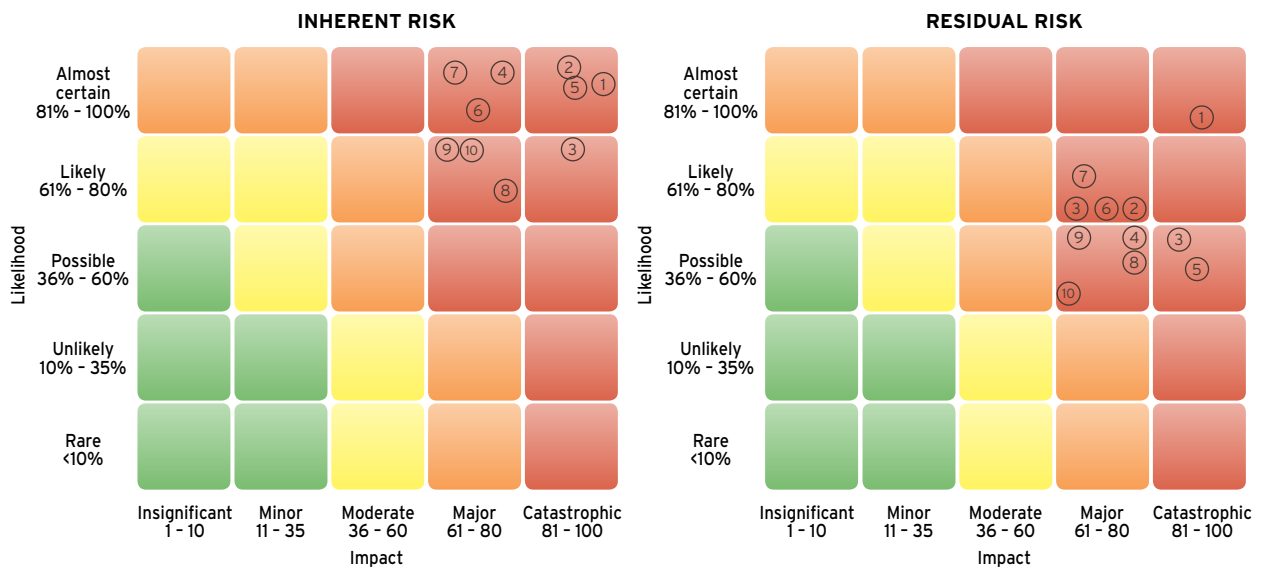
↑ Residual risk score increased   ↓ Residual risk score reduced   → Residual risk score unchanged   \* New risk identified

RANK	STRATEGIC PILLAR	RISK	2016 RESIDUAL RISK SCORE	TREND	2017 RESIDUAL RISK SCORE	COMMENT
7	Safety and sustainability excellence	Fraud and corruption	39	↑	40	Residual risk only marginally higher due to robust anti-fraud, bribery and corruption programme; despite a concerning and pervasive, systematic lack of ethics in our external operating environment
8	Safety and sustainability excellence	Rehabilitation liability	*	New in top 10	39	Uncertainty on full impact of new NEMA regulations
9	Safety and sustainability excellence	Water allocation and shortage	33	↑	39	Climate-change realities and potentially adverse use allocations
10	Safety and sustainability excellence	Community unrest	*	New in top 10	38	High levels of unemployment, general dissatisfaction of communities with the lack of adequate service delivery by authorities

↑ Residual risk score increased   ↓ Residual risk score reduced   → Residual risk score unchanged   \* New risk identified

**Risk heatmap (top 10)**

The top 10 risks are plotted on the heatmap below and detailed in the tables that follow.



Likelihood	
Factor	Description
> 81 - 100	Almost certain
> 61 - 80	Likely
> 36 - 60	Possible
> 10 - 35	Unlikely
< and = 10	Rare

Impact	
Factor	Description
> 81 - 100	Catastrophic
> 61 - 80	Major
> 36 - 60	Moderate
> 10 - 35	Minor
< and = 10	Insignificant

# RISKS AND OPPORTUNITIES (CONTINUED)

DRIVER	DRIVER CATEGORY	IMPACT
<b>1 Key dependency on Eskom and AMSA</b>		
<b>Risk description: Combined risk exposure due to dependency on Eskom and AMSA as key customers</b>		
Further delays to Eskom Medupi power station	External	› Operational constraints at Grootegeluk due to adverse pit-liberation impacts
Termination of coal-supply agreement (CSA) at Arnot and Mafube	External	› Operations at Arnot stopped
Rehabilitation fund shortfall at Matla and Arnot	External	› Possible suspension or cancellation of mining right at Matla and Arnot by DMR on non-compliance to rehabilitation requirements under MPRDA
Non-funding of capital requirements. Some R4,5 billion required for new Matla mine 1 shaft and shortwall replacements for mine 2 and mine 3 as well as ventilation shaft for mine 3	External	› Safety compromised since capital approvals for safety initiatives rest with Eskom › Output and quality compromised without mine 1 › Financial penalties for captive mine contracts (production demands cannot be met because of outstanding capital approvals)
Matla CSA threatened	External	› Output and quality compromised without mine 1
Dependent on AMSA due to limited domestic market (high-value products at Grootegeluk)	External	› Marketing strategy changes
Eskom calling for over 25Mt in next five years from Grootegeluk operations	External	› Eskom deviating from plan, taking more than 25Mt
<b>2 Continued policy and regulatory uncertainty</b>		
<b>Risk description: Political and economic uncertainty on the mining sector and broader economy</b>		
Poor economic outlook may influence policy decisions	External	› Lower returns/margins on existing operations and future projects
Increased influence of opposition parties	External	› Increased pressure on business to invest in social causes
Uncertainty on energy mix for SA	External	› Delayed capital investments
Delays in finalising policy, regulations and approvals	External	› Delayed licence approvals › Loss of Thabametsi mining right
<b>3 Maintain social licence to operate</b>		
<b>Risk description: Maintain a social licence to operate in terms of mining charter and BBBEE requirements</b>		
Unable to meet some elements of dti BBBEE codes	Internal	› Reputational impact
Increased social activism due to chronic unemployment	External	› Community unrest › Production stoppages
Increased state intervention in mining sector: expectations to invest and transform	External	› Suspension/cancellation of mining right › Penalties and fines for non-adherence
Unable to meet some mining charter targets, and failure to implement sustainable SLP projects	Internal	› Reputational impact › Unfulfilled community expectations

	IMPACT CATEGORY	TREATMENTS/CONTROLS	
	Operations	<ul style="list-style-type: none"> <li>› Renegotiating Medupi CSA (addendum 10)</li> <li>› Broadening local and international customer base</li> </ul>	<p><b>Material issue:</b> Key customer dependency</p> <p><b>Assurance:</b> None</p> <p><b>Strategic KPI:</b> None</p>
	Operations	<ul style="list-style-type: none"> <li>› Evaluating options for Arnot, conducting social impact studies for the mine</li> </ul>	
	Legal and compliance	<ul style="list-style-type: none"> <li>› Position for impact of NEMA regulations. Engaging with Eskom to fund shortfall. Seeking resolution through arbitration process</li> </ul>	
	Safety Quality Financial	<ul style="list-style-type: none"> <li>› Engaging with Eskom</li> </ul>	
	Stakeholder relations	<ul style="list-style-type: none"> <li>› Engaging with Eskom</li> </ul>	
	Financial	<ul style="list-style-type: none"> <li>› Quarterly engagement with AMSA to understand its business drivers and demand</li> </ul>	
	Operations	<ul style="list-style-type: none"> <li>› Continuous engagement with Eskom on requirements</li> </ul>	
	Stakeholder relations	<ul style="list-style-type: none"> <li>› Monitor country-risk assessments including rating agency reports</li> </ul>	<p><b>Material issue:</b> Social licence to operate, business resilience</p> <p><b>Assurance:</b> None</p> <p><b>Strategic KPI:</b> None</p>
	Financial	<ul style="list-style-type: none"> <li>› Continued support of business lobby groups to engage politicians and government</li> </ul>	
	Financial and operations	<ul style="list-style-type: none"> <li>› Portfolio diversification</li> <li>› Monitor energy mix and implications</li> </ul>	
	Financial and operations Legal and regulatory	<ul style="list-style-type: none"> <li>› Leverage opportunities to collaborate with government and industry partners</li> </ul>	
	Stakeholder relations	<ul style="list-style-type: none"> <li>› Pursue identified initiatives to progressively improve Exxaro's BBBEE rating</li> </ul>	<p><b>Material issue:</b> Licence to operate</p> <p><b>Assurance:</b> Tier 3 (external)</p> <p><b>Strategic KPIs:</b></p> <ul style="list-style-type: none"> <li>› Mining charter elements</li> <li>› BBBEE code elements</li> <li>› SLP projects (cost variance from plan)</li> <li>› SLP projects (time variance from plan)</li> </ul>
	Stakeholder relations Operations	<ul style="list-style-type: none"> <li>› Conduct SLP audits. Consider employment opportunities within SLPs and other industry-led or government initiatives</li> </ul>	
	Legal and compliance	<ul style="list-style-type: none"> <li>› Regular engagement with government</li> </ul>	
	Stakeholder relations	<ul style="list-style-type: none"> <li>› Proactive involvement in sustainable socio-economic development initiatives. As a minimum, adhere to commitments in SLPs</li> <li>› Reporting on mining charter requirements (external and internal)</li> </ul>	



# > RISKS AND OPPORTUNITIES (CONTINUED)

DRIVER	DRIVER CATEGORY	IMPACT
<b>4 Capital project execution</b>		
<b>Risk description:</b> Due diligence with which projects are managed		
Poor project management (time, cost and quality)	Internal	
Poor programme and contractor implementation strategy	Internal	› Project delay
Lack of access to strategic infrastructure (roads, water, housing, etc)	External	
Supply chain inefficiencies and poor contracting strategy	Internal	› Project cost overrun
SHEC and stakeholder management (community unrest) issues	External	› Community unrest
<b>5 Safety and health concerns</b>		
<b>Risk description:</b> The dangers of mining are inherent. Industry leaders have long focused on enhancing safety management systems and building a safety culture. The lack of a safety culture affects corporate reputation, the licence to operate and ability to attract and retain talent, particularly when employees must deal with serious injuries or loss of colleagues. Welfare of employees is also a focus in the mining sector (occupational and non-occupational diseases)		
Excessive fatigue levels	Internal	› Safety incidents
Poor procedures for maintaining equipment and machinery	Internal	› Fines and penalties - section 54/55 (DMR)
Inadequate on-the-job training	Internal	› Reputational damage
Lack of awareness on health risks	Internal	› High insurance premiums
Inadequate systems to track health issues (eg sick leave)	Internal	› Decrease in quality of life

IMPACT CATEGORY	TREATMENTS/CONTROLS
	<ul style="list-style-type: none"> <li>› Asset portfolio review and management</li> <li>› Contingency planning</li> <li>› Disciplined execution of value-engineering study review</li> <li>› Robust governance structure</li> <li>› Advanced assurance frameworks (independent review and oversight)</li> <li>› Adhere to risk management process</li> <li>› Improved capex forecast accuracy</li> <li>› Monitoring and tracking progress of capital projects</li> <li>› Project role clarification and accountability</li> <li>› Standardise design and construction methodologies</li> </ul>
	<ul style="list-style-type: none"> <li>› Secure contractor's commitment to assigning a strong and experienced management team</li> </ul>
	<ul style="list-style-type: none"> <li>› Planning as part of overall project</li> <li>› Proactive engagement with stakeholders prior to construction</li> </ul>
Financial	<ul style="list-style-type: none"> <li>› Ensure project and supply chain performance is monitored and managed</li> </ul>
Stakeholder relations	<ul style="list-style-type: none"> <li>› Proactive community engagement</li> </ul>

Safety	<ul style="list-style-type: none"> <li>› Conduct compliance awareness training (health and safety)</li> <li>› Ensure compliance with Basic Conditions of Employment Act</li> </ul>	<p><b>Material issue:</b> Our people</p> <p><b>Assurance:</b> Tier 3 (external)</p> <p><b>Strategic KPIs:</b></p> <ul style="list-style-type: none"> <li>› LTIs</li> <li>› Number of fatalities</li> <li>› LTIFR</li> <li>› OHIFR</li> <li>› Occupational health (accepted cases include COAD, pneumoconiosis, NIHL, silicosis and occupational TB)</li> <li>› HIV prevalence rate</li> <li>› HIV/Aids awareness training and voluntary testing (% of organisation)</li> </ul>
Financial Legal and compliance	<ul style="list-style-type: none"> <li>› Continuous reporting of incidents</li> <li>› Ensure proximity-detection systems are implemented and maintained</li> </ul>	
Stakeholder relations	<ul style="list-style-type: none"> <li>› Continuously review industry benchmark on safety</li> <li>› Establish compliance-based committees to manage, educate and communicate safety programmes</li> </ul>	
Financial Health	<ul style="list-style-type: none"> <li>› Proactive surveillance programme at all business units</li> </ul>	
Health	<ul style="list-style-type: none"> <li>› Proactive surveillance programme at all business units</li> </ul>	

# RISKS AND OPPORTUNITIES (CONTINUED)

DRIVER	DRIVER CATEGORY	IMPACT
<b>6 State capture</b>		
<b>Risk description:</b> A type of systemic political corruption in which private interests significantly influence a state's decision-making processes to their own advantage		
Fraud and corruption	External	› Loss of ownership of coal operations
Lack of leadership at all levels of government	External	› Licences withdrawn › Financial loss › Business continuity compromised
<b>7 Fraud and corruption</b>		
<b>Risk description:</b> Theft, fraud, forgery, bribery and corruption		
Lack of ethics in the South African context	External	› Reputational damage › Loss of assets
Failure to comply with laws and regulations	Internal	› Penalties and fines › Reputational damage
Collusion with major suppliers and service providers and agents	Internal	› Loss of assets › Criminal prosecution
<b>8 Rehabilitation liability</b>		
<b>Risk description:</b> Matching funding to achieve approved technical solution		
Mine predates proclamation of the Act	External	› Financial obligation
Lack of sufficient concurrent rehabilitation	Internal	› Reputational damage › Rehabilitation backlog
Changing legislation impacts provision	External	› Non-compliance to MPRDA and NEMA

	IMPACT CATEGORY	TREATMENTS/CONTROLS	
	Financial	<ul style="list-style-type: none"> <li>› Ensuring legislative protection of contracts and mineral rights</li> <li>› Closing compliance gaps</li> </ul>	<b>Material issue:</b> Business resilience <b>Assurance:</b> None <b>Strategic KPI:</b> None
	Legal and compliance Financial Operations	<ul style="list-style-type: none"> <li>› Ensuring legislative protection on contracts</li> <li>› Promoting Exxaro's purpose and achievements</li> </ul>	
	Stakeholder relations Financial	<ul style="list-style-type: none"> <li>› Business intelligence tools</li> <li>› Ongoing internal compliance and risk management assessments</li> <li>› Participation in industry forums</li> <li>› Robust anti-bribery and corruption initiatives</li> <li>› Fraud hotline for employees to log anonymous calls and an internal investigation unit</li> <li>› Third-party due diligence and research</li> </ul>	<b>Material issue:</b> Business resilience, our people <b>Assurance:</b> Tier 3 (external) <b>Strategic KPI:</b> Fraud and corruption/asset destruction (annual % of PPE, inventory, debtors and cash)
	Legal and compliance Stakeholder relations	<ul style="list-style-type: none"> <li>› Regular fraud and corruption awareness campaigns</li> </ul>	
	Financial Legal and compliance	<ul style="list-style-type: none"> <li>› Automated control monitoring tool/system (SAP process control in procure-to-pay environment)</li> </ul>	
	Financial	<ul style="list-style-type: none"> <li>› Financial provision through rehabilitation trust contributions and guarantees to DMR</li> </ul>	<b>Material issue:</b> Licence to operate <b>Assurance:</b> Tier 3 (external) <b>Strategic KPI:</b> Assessing financial rehabilitation provision gap compared to assessed life-of-mine rehabilitation quantum
	Financial Stakeholder relations Environmental	<ul style="list-style-type: none"> <li>› Concurrent rehabilitation plan - budget and execute</li> </ul>	
	Legal and compliance	<ul style="list-style-type: none"> <li>› Assess and implement provision for full compliance</li> </ul>	

# ➤ RISKS AND OPPORTUNITIES (CONTINUED)

DRIVER	DRIVER CATEGORY	IMPACT
<b>9 Water allocation and shortage</b>		
<b>Risk description:</b> Supply of water to Exxaro operations. Availability of water for future projects		
Drought	External	› Operational stoppages
Delays in building water infrastructure by government	External	› Escalating cost of water
Limited water resources in SA	External	› Opportunity loss of strategy and business › Reduction in net present value
Traditional areas of operation have little water, especially Waterberg	External	› Project delivery delays
Competing demands of agriculture, mining and general population	External	› Legal/health and compliance
<b>10 Community unrest</b>		
<b>Risk description:</b> Where the community mobilises against local operations to demand employment and/or enterprise development or due to dissatisfaction with local economic development or contracting philosophy		
High unemployment rate in SA	External	› Harm to employees
Dissatisfaction with LED and skills development	External	› Disruption to operations › Potential damage to mine equipment › Reputational damage

	IMPACT CATEGORY	TREATMENTS/CONTROLS	
	Operations	› Establishment of public-private partnerships	<b>Material issue:</b> Business resilience <b>Assurance:</b> Tier 3 (external) <b>Strategic KPI:</b> Water intensity (kℓ/total tonnes mined)
	Financial	› Liaison through Chamber of Mines with government	
	Financial	› Linking water intensity targets to performance targets	
	Project performance	› Recycling water › Water treatment plants ensuring water efficiency and treatment	
	Legal and compliance	› Measuring and monitoring water intensity targets	
	Safety	› Build local and national political relationships	<b>Material issue:</b> Business resilience <b>Assurance:</b> None <b>Strategic KPI:</b> Brand perception
	Operations Stakeholder relations	› Business continuity planning › Invest in non-mining skills development programmes › Negotiations with communities › Ongoing employee engagement initiative › Ongoing investment in community and communicating achievements › Prudent investment that creates employment › Transparent and ongoing communication with other stakeholders	