

How we report

Governance

The Exxaro annual estimation and reporting process is managed through Exxaro geosciences and LoM policies and associated Coal Resource and Coal Reserve reporting and estimation procedures. These policies and procedures are aligned with the guidelines of section 12:13 of the JSE Listings Requirements and the SAMREC Code.

The policies and procedures dictate technical requirements for estimation and reporting, and include guidelines on methodologies, processes and deliverables. Procedures are also implemented for the geophysical, rock engineering, geotechnical, structural geology, hydrogeological, exploration and mine planning disciplines that prescribe methodologies and minimum standards for compliance.

Table 1: Exxaro's reporting structure

Regulatory	Governance	Deliverables	Assurance
JSE Listings Requirements (section 12)	Geosciences policy	Annual Resource and Reserve estimation schedule	Annual review and update of procedures
Considered 2016 amendments to minimum contents of annual report, point 12.13	Updated in 2022 to align with new minerals strategy	Followed 2022 estimation schedule for operations under Exxaro's control	Considered, reviewed and updated procedures as required
SAMREC Code (Table 1)	Exxaro's Mineral Resources and Mineral Reserves reporting procedure	Mineral Reserves fact packs	Competent Persons' register update and review
Considered 2016 updated Table 1	Considered 2022 update	2022 Mineral Reserves fact packs updates for Matla, Belfast, Grootegeeluk, Leeuwpan and Mafube	Updated for 2022
SANS 10320	Exxaro's Mineral Resource estimation procedure	Annual Mineral Resource and Mineral Reserve Competent Persons' report	Exxaro Consolidated Mineral Resources and Mineral Reserves report review and lead Competent Person sign-off
Alignment with proposal and methodologies of SANS 10320:2020 edition 2	Considered 2022 update	Competent Persons' reports updated for Grootegeeluk and Leeuwpan	Peer reviewed by Tamela Consulting and signed off by lead Competent Persons
JORC Code	Exxaro's Mineral Reserve estimation (LoM) policy	Mineral Resource and Mineral Reserve report	Applicable Competent Person and technical team sign-off
Considered JORC Code, 2012 edition	Considered 2022 update	Reports updated for Mafube, Belfast and Matla	Included in individual Competent Persons' and annual Resource and Reserve reports, available on request
			Internal review and external audit process
			Conducted internal reviews and findings are addressed (Assurance section)

Competent Persons

Exxaro applies three levels of "competency" to estimating Coal Resources and Coal Reserves:

- **Competent Person** (as defined in the SAMREC and JORC codes) who officially takes responsibility for estimating and reporting Coal Resources and/or Coal Reserves at operational or project level. These appointed Competent Persons have acknowledged acceptance of accountabilities. Names, qualifications, affiliations and relevant experience are included in the independent operational and project reports in the form of a Competent Person's certificate
- **Technical specialists**, including geologists, mining engineers, geohydrologists, geotechnical engineers, financial experts and economists, among others. The Competent Persons' report or Resource and Reserve report contains the names, signatures and contributions of technical specialists who contributed to estimating the operations' Coal Resources and Coal Reserves
- Persons designated to take **corporate responsibility** for the Coal Resource and Coal Reserve estimates presented in the consolidated report are differentiated from the Competent Person at an operational level, who takes overall corporate responsibility.

Exxaro's Coal Resources and Coal Reserves were estimated or supervised by the Competent Persons listed in Table 2 (name, affiliation and relevant experience) on an operational basis in accordance with the SAMREC Code for South African properties and the JORC Code for Australian properties. All Competent Persons have sufficient relevant experience in the style of mineralisation, type of deposit and/or mining method(s) under consideration and/or being mined, and for the activity under their responsibility to qualify as Competent Persons, as defined in the applicable codes at the time of reporting.

The appointed Competent Persons have signed off their respective estimates in their original Competent Persons' reports for the various operations, and consent to the inclusion of the information in this report in the form and context in which it appears in the Consolidated Mineral Resources and Mineral Reserves report. The appointed Competent Persons are employed full time at the operation as the resident geologist or mineral resources manager. In the case of projects, the Competent Persons conducted appropriate site visits to the mineral property being evaluated. All operations under Exxaro's control were visited by the relevant Competent Persons.

Exxaro's **lead Competent Persons** are appointed by the management team.

Competent Persons continued

Table 2: Competent Persons' register

Operation/project	Mineral Resources				Mineral Reserves			
	Name	Relevant experience (years)	Job title – Employer	Registration	Name	Relevant experience (years)	Job title – Employer	Registration
Lead Competent Person, Exxaro	JH Lingenfelder	27	Group manager: geosciences	SACNASP (400038/11)	C Ballot	26	Group manager: mining	ECSA (20060040)
Belfast mine	G Gcayi	15	Resident geologist, Belfast	SACNASP (400299/11)	Al Dednam	11	Manager: MRM and optimisation, Belfast	Southern African Institute of Mining and Metallurgy (710051)
Grootegeeluk mine	S Mhlongo	11	Resident geologist, Grootegeeluk	SACNASP (400044/18)	R Teffo	14	Manager: mining, Grootegeeluk	ECSA (2021800057)
Leeuwpan mine	JK Kgarume	9	Resident geologist, Leeuwpan	SACNASP (117081/17)	M Sethethi	16	Mine manager, Leeuwpan	ECSA (20095030)
Matla mine	M Dimmick-Touw	9	Resident geologist, Matla	SACNASP (400134/16)	TF Moabi	17	MRM manager, Matla	SACNASP (400067/08)
Thabametsi project	S Mhlongo	11	Resident geologist, Grootegeeluk	SACNASP (400044/18)	C Ballot	26	Group manager: mining	ECSA (20060040)
Mafube (Nooitgedacht and Wildfontein)	D Xaba	23	Geology manager production, Thungela Resources	SACNASP (400115/01)	NJ van der Merwe	15	Technical services manager, Thungela Resources	ECSA candidate (2021900118)
Moranbah South, Australia	AJ Laws	27	Geoscience modelling specialist, Anglo American Steelmaking Coal Proprietary Limited	AusIMM (209913)	N/A			
Black Mountain Mining (BMM) Deeps mine, Swartberg and Big Syncline projects	M Campodonic	22	Director and corporate consultant: resource geology, SRK Consulting (UK)	AusIMM (Competent Person: Geology), Fellow of the Geological Society of London (FGS)	J Miles	33	Associate principal consultant: mining engineering, SRK Consulting (UK)	Member of the Institute of Materials Minerals and Mining (CEng)
Gamsberg	M Campodonic	22	Director and corporate consultant: resource geology, SRK Consulting (UK)	AusIMM (Competent Person: Geology), FGS	J Miles	33	Associate principal consultant: mining engineering – SRK Consulting (UK)	Member of the Institute of Materials Minerals and Mining (CEng)
Kumba Iron Ore	J Britz	18	Principal: resource geology, Sishen Iron Ore Company Proprietary Limited (SIOC)	SACNASP (400423/04)	T Otto	18	Manager: Mining, SIOC	ECSA (990072)

* All Competent Persons are Exxaro employees except where otherwise stated and their qualifications are included in the individual Competent Persons' reports.

* Exxaro Resources: 263B West Avenue, Die Hoewes, Centurion 0163, Gauteng, South Africa.

* South African Council for Natural Scientific Professions: Private Bag X540, Silverton 0127, Gauteng, South Africa.

* Engineering Council of South Africa: Private Bag X691, Bruma 2026, Gauteng, South Africa.

* Australasian Institute of Mining and Metallurgy: 204 Lygon Street, Carlton VIC 3053, Australia.

* The Institute of Materials, Minerals and Mining: 297 Euston Road, London NW1 3AD, United Kingdom.

* SIOC: Hendrik van Eck Street, Kathu 8484, Northern Cape, South Africa.

* Thungela Resources: 25 Bath Avenue, Rosebank, Johannesburg 2196, Gauteng, South Africa.

* Anglo American Steelmaking Coal: 201 Charlotte Street, Brisbane 4000, Queensland, Australia.

Resource estimation methodology summary

The estimation process, summarised below, applies to all coal operations and projects under Exxaro's management control. The Resource Competent Person is actively involved throughout the process and no data is included/excluded without consent.

The Resource estimation process for Coal Resources under Exxaro's control is governed by the group's Resource estimation procedure and aligned to the SAMREC Code and SANS 10320. The data used for Resource estimation is managed by separate commodity-specific procedures through which core recovery and logging, sampling, quality assurance and quality control (QAQC), relative density determination and wireline logging standards are enforced.

Table 3: Summary of estimation considerations

Item	Description
Resource fact pack	Lists new information since the last estimation, e.g. RPEEE considerations.
Exploration	Annually compiled, integrated and signed-off exploration plans outline planned activities to investigate areas of low confidence and/or geological or structural complexities to ensure Resources with a high level of geological confidence are considered for mine planning. Exploration plans are available as supplementary information to the Competent Persons' report.
Drilling, logging and sampling process	The senior geologist supervises all drill hole drilling and is responsible for logging and sampling in compliance with Exxaro's logging and sampling standards as well as standard operating procedures. Sampling of drill holes is only conducted after the stratigraphy has been correlated. All drill holes are drilled as vertical drill holes from surface and the intersection to the seams is considered as representative of true thickness.
Core recovery	The core recovery standard (>95% in coal seams for valid points of observation), as stipulated in the SAMREC Code and SANS 10320, is not always empirically enforced due to unavailability of digital core recovery data for pre-2017 drill holes. However, Exxaro's Competent Persons confirm that there is high confidence in core and sample recovery for all drill holes used for Resource estimation purposes, and any deviation is managed by increased geological losses within geological loss domains, downgrading Resource classification and/or redrilling drill holes. Core recovery is continuously reviewed and any shortcomings are actively addressed through downhole geophysical surveys, seam validations and redrilling.
Relative density determination	For Coal Resources, relative density (air-dried) is determined by accredited laboratories using the Archimedes method in all instances, except for Grooteegeluk mine and the Thabametsi project where relative density is determined using an on-site mine laboratory application of the Archimedes method, and results are continuously used to validate core recovery. A comparative study between the field and laboratory methods was undertaken in 2015 and results indicated no significant difference.
Technical data validation	Technical data validation is used for Resource estimation and includes collar validation, gaps and overlaps checks and data distribution.
Data analysis	Entails a review and analysis of the geological integrity and continuity of data in a spatial and geostatistical sense with domaining and structural interpretations.
Data modelling	GEOVIA Minex™ is used for coal modelling and the Minex™ growth algorithm is the preferred interpolation technique with Esri's ArcGIS used for modelling structural features. acQuire or Minex™ is used for coal compositing and, in both instances, representative substitute values are used for unsampled non-coal material. The geological model and structural interpretation are presented by the Resource Competent Person, aided by relevant technical specialists, to a panel comprising Exxaro's lead Competent Person and domain experts for sign-off and approval. Concept-level geological models, where applicable, are compiled for alternative interpretations and these risks are evaluated during sign-off. Feasibility level and/or LoMP-level geological models are based on reviewed and signed off interpretations.
Resource classification	Resource classification follows the Exxaro estimation procedure and is aligned with SANS 10320 and considers risk and opportunity domain analysis (RODA). Anomalous drill hole data and structurally complex areas are accounted for and Resource classification is used to control the adequacy of drill hole data. We determine separate confidence zones for structural features using a matrix approach. The effect of extrapolation is controlled by Resource classification, which does not extrapolate domains beyond half the average drill hole spacing for the classification category and only uses points of observation with applicable quality data.
Estimation and reporting	Resource reporting uses approved cut-offs and geological loss domains, followed by completion of all necessary reports and audit trails. Exxaro currently uses a systematic and integrated review process that measures the level of maturity of exploration work done, the extent of geological potential, licence to operate and associated geological risks to establish the eventual extraction. The criteria for assessing reasonable prospects for eventual economic extraction (RPEEE) are shown in Table 5. Reporting includes technical information that requires subsequent calculations to derive subtotals, totals and weighted averages. Such calculations may involve a degree of rounding and consequently introduce an error. Where such errors occur, Exxaro does not consider them material.
Review and consolidation	Individual reports are reviewed and corrections are effected if necessary. Reports are endorsed by management and used to compile the consolidated Coal Resources and Coal Reserves report.

RPEEE consideration

RPEEE should be demonstrated through the application of an appropriate consideration of Mineral Resources. Such a consideration should include a reasoned assessment of the geological, mining engineering, processing, metallurgical, legal, infrastructural, environmental, marketing, socio-political and economic assumptions which, in the opinion of the Competent Person, are likely to influence the prospect of economic extraction. All of the issues listed under “reasonable prospects for eventual economic extraction” should be discussed at the level appropriate for the specific investigation. – SAMREC Code

Table 4: Exxaro's RPEEE considerations

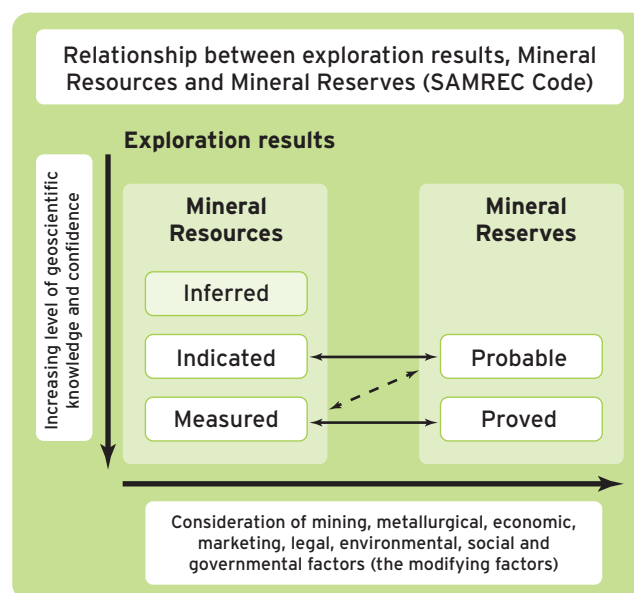
Item	Criteria	Considerations
Geological data	Data validated and signed off by a Competent Person	Seam depth, extent, thickness, geological structure and seam quality (cut-off)
Geological model	Geological model considered and signed off	
Structural model	Structural model considered and signed off	
Mining	Mining assumptions considered and defined	Mining method, inputs from metallurgist, rock engineer and hydrogeologist
Assurance	Minimum tier 1 assurance as per Exxaro governance and assurance framework	As per tier 1 requirement
Economic evaluation	Concept-level exploitation and economic evaluation quantifies economic potential based on economic and mining assumptions, including geotechnical and geohydrological assumptions	Preliminary appraisal of layout, cost and profit
Environmental	Assessment of potential impediments and, if any exist, a reasonable expectation of resolution with reasonable demonstration that environmental approvals can be obtained within the context of local, regional and national legislation	
Tenure	Formal tenure must be demonstrated and, if any potential impediments exist, there must be a reasonable expectation of resolution or, if a prospecting right, there should be a reasonable demonstration that a mining right approval can be obtained within the context of local, regional and national legislation	
Infrastructure	Assumptions used should be reasonable and within known/assumed tolerances or have examples of precedence and any potential impediments should have a reasonable expectation of resolution, considering power, water and transport	
Market	Potential market for product that is planned to be extracted from the Resource with a reasonable assumption that this market is sustainable	

Reserve estimation methodology summary

Exxaro is keenly aware of the importance of our mineral assets for the short-term profitability of our operations and the sustainability of the company. The optimisation of mineral assets beyond what is generally referred to as Mineral Resource management is being driven as a priority.

Changes in the resources market, increased awareness of protecting the natural environment and changing legislation and statutory requirements demand a change in the utilisation strategy and execution of mining operations. Exxaro continuously assesses the various LoM strategic plans to consider the best way to address these challenges.

Figure 6: Relationship between exploration results, Mineral Resources and Mineral Reserves SAMREC Code



Reserve estimation methodology summary continued

Table 5: Summary of reserving process

Item	Description
Inputs	To comply with LoM policy, all Reserve estimates require survey, rock engineering, infrastructure, legal, processing, social, economic, political and environmental inputs.
Reserve fact pack report	<p>At the start of the estimation process, the applicable Reserves Competent Person must compile a Reserve fact pack report for every operation outlining the standards and norms of that operation, as well as all relevant planning standards. All standards, norms and planning parameters, the geological model, RODA, infrastructure and environmental plans together with the structural plan, geotechnical review report, among others, are also considered. The market strategy, supply contracts and planned volumes drive the schedule. All operation standards must be signed off by the applicable mine management and Reserve Competent Person. A similar procedure is followed for projects and the project steering committee fulfils the role of mine management.</p> <p>Reserve estimation may be conducted either as required (in a project-stage evaluation, for example) or as part of the annual Mineral Resource and Mineral Reserve estimation process. The data conversion, validation and verification report are the first outputs of this procedure.</p>
Geological model validation	On receipt of the geological model, the validation procedure is conducted, and the model is converted into a mining model. A report is then compiled with possible geological model anomalies, and a comparison of volumes in the geological model and mining model to confirm data conversion has been conducted correctly. This information is reviewed by the manager: strategic mine planning and design and signed off as acceptable by the Resources and Reserves Competent Persons.
The following components are included in the LoMP and Reserve estimation: exploitation strategy, operational methodology and pit shell.	
Exploitation strategy	The exploitation strategy needs to broadly demonstrate the pit/mining economics in terms of Reserve boundaries, legal and other, such as servitudes. For example, when converting the Resource to Reserve, explain the economics, in terms of stripping ratio and underground versus open pit, among others. The strategy needs to explain the extraction sequence of mining different areas in terms of access, economics or other criteria deemed most appropriate.
Operational methodology considerations	<p>Material flow explains the flow of material over time, such as open pit (ex-pit, horizontal and vertical distances and underground), geographical expansion versus stooping and deep pit (push-back strategy, minimum and maximum stripping curves).</p> <p>Equipment explains the size and type of equipment for the design, including life of equipment, major interventions and/or major changes (such as open pit to underground) over the life of the Reserve.</p> <p>Waste dumps (size and position), rehabilitation (main issues and interventions) together with legal and other indicated licences obtained and required are included.</p>
Pit shell	Pit shell is the final delineation or envelope of the Resource that will be converted to a Reserve. The LoMP pit shell is the foundation of the business case and, as such, is based on the most accurate information available. Measured and Indicated Resources are used as the basis for conversion.
Modifying factors	<p>Coal Reserves are estimated using the relevant modifying factors at the time of reporting (mining, metallurgical, economic, marketing, legal, environmental, social and regulatory requirements). Modifying factors are signed off before Reserve estimation by the persons responsible for ensuring that all factors are timeously and appropriately considered. Comprehensive modifying factor sign-off and Reserve fact packs that record losses, recoveries/yields and other factors applied are documented in each independent Competent Person's report.</p> <p>Resource volumes/tonnages are converted to Reserve tonnages by applying the following mining modifying factors:</p> <ul style="list-style-type: none"> • Mining efficiency losses as per average cut thickness are applied to account for net losses of Reserves due to mining equipment selection and mining method. The efficiency factor also accounts for the thickness of the selected RoM and waste horizons relative to selected mining equipment • Layout losses account for the loss of Reserves due to actual mining activities not reaching the defined Reserve boundary or due to the geometry of the Reserve block • RoM extraction accounts for losses incurred using the selected mining method • Contamination accounts for waste or inter-burden material unintentionally added to the mining horizon as a result of mining operations and equipment used • Free moisture accounts for the change in the Reserve tonnage due to the addition of moisture from bench-mining operations
Reserve classification	The Reserve classification methodology for Coal Reserves under Exxaro's control is governed by the Exxaro Coal Reserve estimation procedure, as described in the LoMP policy and aligned with the SAMREC Code and SANS 10320. In general, Measured Resources are converted to Proved Reserves and Indicated Resources are converted to Probable Reserves. If an operation or project has additional constraints, such as a supply agreement that has not been finalised or a sales/marketing strategy that limits the profitability of the mine, the Measured Resources can be downgraded to Probable Reserves. In situations where this has been applied, it is clearly stated in the footnotes for the Reserves tables.
Inferred Resources	Where Inferred Resources were considered for LoMPs, the amount (Mt) and effect are always clearly stated. When Inferred Resources are included in the LoMP, these tonnages are not scheduled in the first five years of mine life. We explain the rationale for considering the inclusion of Inferred Resources and state our actions to address this issue. Exxaro generally attempts to limit Inferred Resources to less than 15% of total Resources to be considered for LoMPs. Any inclusion of Inferred Resources must be tested and reported. Modifying factors and assumptions that were applied to the Indicated and Measured Resources to determine the Coal Reserves must be equally applied to Inferred Resources. Inferred Resources are not converted to Coal Reserves and are not stated as part of the Mineral Reserve. The amount of Inferred Resources considered for the reported LoMP is included in the Reserves statement.
Outputs	The following outputs are generated after successfully completing the procedure: validation and verification report, fact pack report, exploitation strategy report, mine design and layout report, and mining schedule, and in the case of projects, a mining study report.

Assurance

Assurance is implemented in terms of a three-tier system, aligned with the guidelines of Exxaro's Mineral Resource and Mineral Reserve reporting procedure, summarised as follows.

Tier 1

Mineral Resource and Mineral Reserve estimation is undertaken as per Exxaro's governance framework. Sign-offs are required at each stage and the process is **concluded** in a **formal sign-off session** by a panel comprising **Exxaro's lead Mineral Resource and Mineral Reserve Competent Persons and technical specialists**. Technical assurance is managed in terms of dedicated standards.

In 2022, **tier 1** assurance was undertaken for the Belfast, Matla and Grootegeluk operations. Geological data validation, data analysis and subsequent updating of geological and structural models were concluded in the reporting period. These models were peer reviewed by geosciences central experts for the three operations and the models were signed off by the applicable Competent Persons and their supporting technical teams. Findings were incorporated in the model updates.

LoMPs were reviewed at our Belfast, Matla, Grootegeluk, Leeuwpun and Mafube operations.

Tier 2

Internal reviews are scheduled and planned for a **three-year cycle** or when deemed necessary. The focus is on projects, and Resource and associated Reserve compliance with Exxaro's **governance framework**, while **ensuring accountability** and **consequence management**.

Table 6 below indicates **tier 2** technical assurances conducted on development projects with specific focus on the estimation that underpins these projects. Where technical findings were identified during reviews that may materially impact the business, remedial actions were recommended to ensure project robustness and shareholder return.

Internal Coal Resource estimation reviews measuring compliance to the Exxaro geosciences policy and the associated Coal Resource reporting and estimation procedures were conducted for Belfast and Grootegeluk mines. A formal review was done on OCCS reporting at Grootegeluk culminating in approval for use in LoM planning. A summary of findings is listed in Table 7.

Tier 3

External audits are scheduled in a **three-year cycle** or at the discretion of the lead Competent Persons and entail a full review of the **Mineral Resource and Mineral Reserve estimation process** from **drill hole logging** to Mineral Reserve **evaluation**.

On **tier 3**, PwC conducted an audit on our internal Resource and Reserve estimation process in 2022 and no critical findings were reported.

Table 6: Tier 2 technical assurances conducted in the reporting year with general points addressed

Project name	Project description	Summary Resource actions	Summary Reserve actions
Grootegeluk complex AMS	Review various technology alternatives for the transportation of overburden material from the pit to the backfill system	The overburden (OVB) was modelled and levels of confidence assigned to the different geological zones. Additional drilling is required in specific areas.	The AMS study concluded that the base case trucking solution was the most economical mining solution as opposed to an overburden in pit crush and convey system.
Moranbah South assurance phase 1	Development, operating, processing and transport of coal for the associated Resource	Exploration to enhance geological structural interpretation as well as coal characterisation should proceed to inform the exploitation plan.	The assurance review highlighted technical aspects on gas, geological structure, geotechnical and mining height considerations that requires optimisation to reach the applicable stage gate.
Belfast pit 4 box cut	Develop and execute the pit 4 box cut, to access the pit 4 Reserves aligned to the Belfast LoMP	We performed exploration drilling to increase the level of confidence in the pit 4 area ensuring the correct placement of the box cut and delineate the Resource extent.	The layout was reviewed based on the updated geological model. The mine design was appraised, with various box cut layouts and designs evaluated to determine the optimised option.
Matla primary production equipment	Replacement and refurbishment of Matla's primary production equipment	We evaluated the Matla Seam 2 thickness based on the latest (2022) geological model.	Mining through areas where seam thickness is less than 1.6m will result in contamination as to accommodate the continuous miner and associated equipment.
Belfast LoM optimisation project	Project to enable Exxaro to optimise the full Belfast mining right	We updated the geological model.	Underground and surface mining methods were evaluated resulting in surface mining as the option going forward.

Table 7: Tier 2 internal reviews findings

Area under review	Finding	Conclusion and recommendation*
Belfast	Core photographs	Current core photographs to be labelled according to the drill hole number and depth range in sequence.
	Core recovery	Core recovery to be captured for each drill run.
	Sample mass records	All samples to be weighed and validated with laboratory measurement.
	Wireline logs	Misalignments must be investigated and adjusted where required on an "if not, why not?" basis.
Grootegeluk	Sign-off of exploration plan	Surveyor and environmental manager to sign off on exploration plans for effective planning and compliance to authorisations.
	Capture metadata	Optimise the capturing of metadata to enhance value add.
	End of hole depth check	Record stick-up measurements in log sheet.

* Findings are communicated and corrective measures are implemented.

Environmental, social and governance (ESG) matters

Our ESG report details environmental management, including applicable authorisations that support our estimates, closure plans, allocated funding and associated risks. The report is available online under the investors tab.

ESG management

Exxaro is a leader in business management with sound ESG principles that deliver sustainable economic returns and tangible benefits for all stakeholders. The FTSE Russell ESG Index group ranks Exxaro number one in ESG performance-selected resources company metrics. Everything we do today is geared towards ensuring a safer and more productive tomorrow. Our sustainability is founded on creative, mutually constructive relationships and values, shared by our stakeholders. We conduct our business activities to create success for Exxaro and society. From how we mine to what we mine, we steward our natural assets and social capital to uplift our communities.

Climate change and carbon management

Climate change resilience refers to our ability to adapt and succeed in the face of direct and indirect climate change impacts. In addition to addressing and managing these risks, it encompasses our ability to capitalise on the strategic opportunities presented by the shift to a lower-carbon, resource-constrained economy. Guided by our purpose, our Sustainable Growth and Impact strategy is designed to ensure we manage the direct and indirect climate change impacts on our current portfolio while ensuring we are able to contribute to the low-carbon environment of the future.

Exxaro measures, manages and reports energy and carbon data in terms of the Greenhouse Gas Protocol. We monitor and report on our scope 1, 2 and 3 emissions annually.

Water use management

Water is a strategic natural resource for South Africa and our business. We are committed to responsible and sustainable water use as enshrined in our water management policy, which focuses on efficient water reuse and recycling. The policy aligns with the legislated environmental framework, mainly governed by the National Water Act, 1998 (Act 36 of 1998), supported by the integrated water resource management hierarchy issued by the Department of Water and Sanitation to prioritise mine and waste management decisions and actions.

Tailings management

Exxaro implements various systems and programmes aimed at monitoring and ensuring compliance at all our tailings facilities. The operation, monitoring and decommissioning of the tailings dams are guided by comprehensive risk-based management and governance systems in line with internationally recognised good practice. The company aligns tailings management with the global industry standard. Risk management is a major aspect of our asset management. It includes risk identification, implementation of controls and assessment of control performance verification. Internal and external reviews, which encompass assurance processes of the tailing dams, are managed and controlled in the company to manage the risks and ensure continuous improvement. All tailings facilities have a third-party appointed tailings dam operator who facilitates tailings maintenance and monitoring. All regulatory five-yearly inspections are conducted by a third-party consulting firm. There are dashboards and quarterly inspections are conducted on the tailings dams in an effort to promote continuous monitoring. Systems in place include training to equip all site engineers with the required technical skills to carry out inspections, which include continuous oversight of asset maintenance.

Exxaro continually develops new initiatives to minimise risks associated with the catastrophic failure of tailings dam. We engage with industry professionals to ensure that relevant developments in the industry are captured and incorporated into our framework for tailings management.

Air quality management

Air quality management is among our top priorities due to the negative impacts of pollutants such as dust and particulate matter (PM10 and PM2.5) prevalent in mining areas.

Our mitigation measures include:

- Application of chemical dust suppressants on unpaved roads
- Adhering to all applicable legislative requirements
- Proactive air quality management planning
- Risk management
- Monitoring, measuring and reporting

Waste management

Cradle-to-grave waste management is critical to maintaining our licence to operate and we have a group environmental policy and waste management standard for hazardous and non-hazardous waste. Our waste management standard enforces a waste management hierarchy that promotes prevention, minimisation, reuse, recycling and energy recovery while ensuring safe waste disposal in line with the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) (NEMWA) and supporting legislation. The environmental policy introduced initiatives such as waste prevention, reuse, recycling, energy recovery and safe waste disposal to reduce environmental and health risks with sustainability in mind. Exxaro's business units receive a rebate for recycling waste such as paper, used oil and scrap metals.

Biodiversity management

One of the fundamental goals for Exxaro is to be a low-impact, high-value organisation for this and coming generations. A key aspect of achieving this goal is ensuring that all Exxaro mines co-exist in harmony with the natural environment in which they operate. This is achieved through positive biodiversity initiatives and programmes implemented at various mines. These initiatives and programmes protect indigenous flora and fauna and ensure the expansion of such species to support ecosystems within and beyond Exxaro's operations. Exxaro is committed to exceeding its biodiversity goals and plans to leave a legacy in which current and future generations can enjoy the benefits of a clean and flourishing natural environment.

Land and heritage management

Exxaro focuses on sustainable management of land owned by its subsidiaries. Sustainable land management requires a balanced approach of economic application, ecological preservation and the social needs of legal occupiers and hosting communities.

Rehabilitation and closure

Our business operations review mine closure and rehabilitation financial provisions yearly. Rehabilitation plans and closure objectives are amended after environmental management programme performance assessments. We review cost estimates of activities in the concurrent and final closure rehabilitation programme and adjust them accordingly. External auditors visit our sites, review documents and audit the provisions twice a year.

Operational closure, concurrent rehabilitation and land management are part of Exxaro's operating philosophy and moral responsibility. We actively plan our operations with closure in mind to ensure adequate financial resources are available to meet our rehabilitation commitments.

Summarised group Mineral Resource and Mineral Reserve estimates

This section outlines the reported Mineral Resources and Mineral Reserves remaining as at 31 December 2022. Mineral Resource and Mineral Reserve figures are not an inventory of all mineral occurrences drilled or sampled but a realistic record of those, under assumed and justifiable technical and economic conditions, that may be economically extractable currently and in future.

Mineral Resources and Mineral Reserves are reported inclusive of Mineral Resources that have been converted to Mineral Reserves. An exception is reporting for Gamsberg and Black Mountain Mining (BMM) and Sishen and Kolomela mines because figures received from Vedanta Resources (JORC Code) and Kumba Iron Ore represent Mineral Resources, excluding those converted to Mineral Reserves.

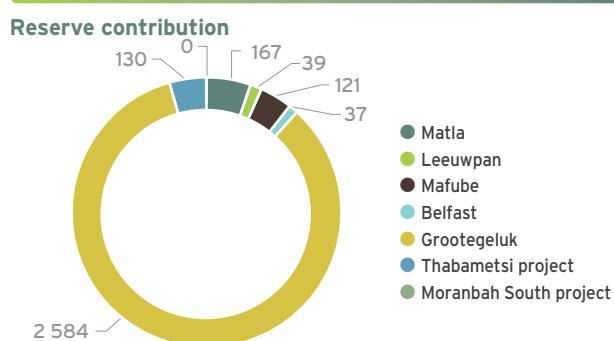
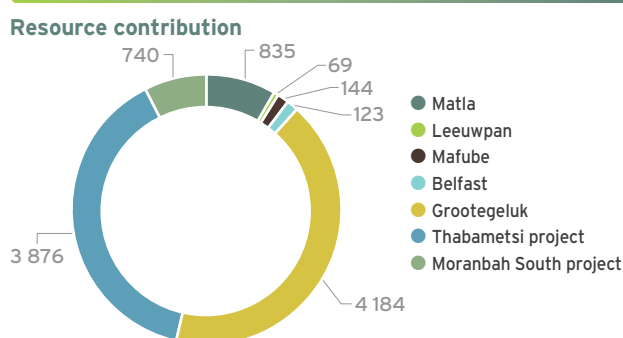
We provide Coal Resource estimates within LoMP and applicable modifying factors when converting Coal Resources to Coal Reserves. Mineral Resources and Mineral Reserves are reported at 100% irrespective of the percentage attributable to Exxaro.

Explanations for material changes in year-on-year movements are provided as footnotes in the Mineral Resources and Mineral Reserves tables.

Table 8: Total attributable Coal Resources and Coal Reserves

Commodity: Coal	Category	2022 MTIS (Mt)
Exxaro attributable tonnes	Measured	4 438
	Indicated	1 936
	Inferred	3 156
Total Coal Resources		9 530
	Proved	2 276
	Probable	743
Total Coal Reserves		3 019








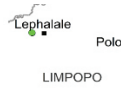

Figure 7: Exxaro's Coal Resources and Coal Reserves attributable contribution (Mt)



Coal Resources

The table below details the total inclusive Coal Resources estimated as at 31 December 2022.

Table 9: Coal Resources and qualities

			2022							2021							% change in tonnes ⁵
			Tonnes and quality ⁴							Tonnes and quality ⁴							
Operation ¹	Location ²	Resource category	Tonnes (Mt)	CV MJ/kg	% Ash	% IM	% VM	% S	Tonnes (Mt)	CV MJ/kg	% Ash	% IM	% VM	% S			
Matla mine ⁶ (UG) (captive market) Mpumalanga 100% attributed to Exxaro ²		Measured	657.3	19.9	30.3	4.6	22.1	1.0	639.3	20.6	29.6	4.6	20.6	1.0	3		
		Indicated	90.6	20.5	28.6	4.7	22.0	0.8	114.0	20.7	28.7	4.5	20.7	0.8	(21)		
		Inferred	87.4	20.3	29.7	4.4	21.4	0.8	93.2	21.0	28.1	4.4	21.0	0.8	(6)		
		Total	835.2	20.0	30.0	4.6	22.0	0.9	846.5	20.7	29.3	4.5	20.7	1.0	(1)		
		Resources inside LoMP	308.2	20.8	28.0	4.8	22.9	1.0	280.9	21.3	27.7	4.8	23.1	1.0	10		
Leeuwpan mine ⁷ (OC) (commercial market) Mpumalanga 100% attributed to Exxaro ²		Measured	65.8	20.3	30.2	3.3	18.9	1.1	77.9	20.0	31.3	3.2	18.6	1.2	(16)		
		Indicated	0.0						0.0								
		Inferred	3.6	19.8	35.4	2.5	14.9	0.9	3.6	20.1	34.6	2.6	14.7	1.0	0		
		Total	69.4	20.3	30.5	3.2	18.7	1.1	81.5	20.0	31.5	3.2	18.4	1.2	(15)		
		Resources inside LoMP	40.5	20.3	29.5	3.2	19.8	1.2	49.1	20.0	30.6	3.1	19.5	1.3	(17)		
Mafube mine ⁸ (OC) (commercial market) Mpumalanga 50% attributed to Exxaro ²		Measured	125.0	20.2	29.2	3.7	21.1	0.9	104.3	21.4	26.8	3.9	22.1	1.0	20		
		Indicated	16.3	20.4	29.8	3.6	21.7	0.9	9.9	21.7	26.0	3.9	22.4	1.0	65		
		Inferred	2.5	19.1	32.2	3.7	19.7	0.8	2.6	21.7	25.9	3.9	22.1	0.9	(4)		
		Total	143.8	20.2	29.3	3.6	21.2	0.9	116.8	21.5	26.7	3.9	22.1	1.0	23		
		Resources inside LoMP	127.1	20.0	29.7	3.6	21.1	0.9	53.4	22.0	25.6	4.0	22.0	1.1	138		
Belfast mine ⁹ (OC) (mining right) Mpumalanga 100% attributed to Exxaro ²		Measured	101.6	23.7	21.7	3.6	22.9	1.2	68.3	24.8	18.6	3.6	23.2	1.1	49		
		Indicated	8.0	22.8	24.5	3.5	22.5	1.3	19.9	22.3	25.3	3.6	22.0	1.1	(60)		
		Inferred	13.3	22.3	25.2	3.7	21.9	1.1	33.8	21.5	27.0	3.4	20.9	0.8	(61)		
		Total	122.9	23.5	22.3	3.6	22.7	1.2	121.9	23.5	22.0	3.5	22.4	1.0	1		
		Resources inside LoMP	38.9	24.8	18.8	3.6	23.6	1.2	41.1	25.0	18.5	3.5	23.5	1.2	(5)		
Grootegeluk mine (OC) (commercial market) Limpopo 100% attributed to Exxaro ²		Measured	2 297	14.2	54.7	1.8	19.7	1.2	1 833	14.1	54.8	1.7	19.6	1.2	25		
		Indicated	738	14.1	55.2	1.7	19.5	1.4	1 118	14.1	55.0	1.7	19.6	1.2	(34)		
		Inferred	144	14.0	55.0	1.9	19.5	1.3	262	14.3	54.0	1.8	19.8	1.4	(45)		
		Total	3 179	14.1	54.8	1.8	19.6	1.3	3 213	14.1	54.8	1.7	19.6	1.2	(1)		
		Resources inside LoMP	2 272	14.2	54.6	1.7	19.8	1.2	2 312	14.2	54.6	1.7	19.8	1.2	(2)		
Grootegeluk mine (OC) (commercial market) Limpopo 100% attributed to Exxaro ²		Measured	742	24.0	27.2	1.9	22.3	2.2	648	24.0	27.4	1.8	22.2	2.2	15		
		Indicated	229	24.0	27.8	1.7	21.9	2.3	303	23.7	28.4	1.7	22.1	2.3	(25)		
		Inferred	34	24.2	26.7	1.9	21.9	2.1	76	23.6	28.9	1.7	21.5	2.2	(55)		
		Total	1 004	24.0	27.3	1.8	22.2	2.2	1 027	23.9	27.8	1.8	22.1	2.2	(2)		
		Resources inside LoMP	524	24.5	25.9	1.8	22.6	2.3	601	23.8	27.9	1.8	22.3	2.3	(13)		
Total Grootegeluk mine ¹⁰ (OC) (commercial market) Limpopo 100% attributed to Exxaro ²		Measured	3 039	16.6	48.0	1.8	20.3	1.5	2 481	16.7	47.7	1.8	20.3	1.5	22		
		Indicated	967	16.4	48.7	1.7	20.1	1.6	1 421	16.1	49.3	1.7	20.1	1.4	(32)		
		Inferred	178	15.9	49.6	1.9	19.9	1.4	338	16.4	48.4	1.8	20.2	1.6	(47)		
		Total	4 184	16.5	48.2	1.8	20.2	1.5	4 240	16.5	48.3	1.8	20.2	1.5	(1)		
		Resources inside Grootegeluk opencast LoMP	2 796	16.2	49.2	1.7	20.3	1.4	2 913	16.2	49.1	1.7	20.3	1.4	(4)		
Thabametsi project (OC/UG) (mining right) Limpopo 100% attributed to Exxaro ²		Measured	270	13.0	52.3	1.9	20.0	1.2	270	13.0	52.3	1.9	20.0	1.2	0		
		Indicated	749	12.6	53.1	1.8	19.8	1.1	749	12.6	53.1	1.8	19.8	1.1	0		
		Inferred	2 857	12.7	52.7	1.9	19.3	1.3	2 857	12.7	52.7	1.9	19.3	1.3	0		
		Total	3 876	12.7	52.7	1.9	19.7	1.3	3 876	12.7	52.7	1.9	19.7	1.3	0		
		Resources inside IPP LoMP	133	12.0	54.7	1.9	20.0	1.0	133	12.0	54.7	1.9	20.0	1.0	0		
Moranbah South project ¹¹ (UG) (prospecting) Australia 50% attributed to Exxaro ²		Measured	484.6	26.9	23.6	2.6	18.5	0.6	484.6	26.9	23.6	2.6	18.5	0.6	0		
		Indicated	226.0	27.4	21.4	2.6	17.8	0.5	226.0	27.4	21.4	2.6	17.8	0.5	0		
		Inferred	29.7	29.7	19.6	2.7	16.9	0.5	29.7	28.2	19.6	2.7	16.9	0.5	0		
		Total	740.4	27.1	22.8	2.6	18.2	0.6	740.4	27.1	22.8	2.6	18.2	0.6	0		
		Resources inside IPP LoMP															

¹ Rounding of figures may cause computational discrepancies.

² All changes more than 10% in the total Resources of an operation are explained. Tonnages are quoted in metric tonnes and million tonnes is abbreviated as Mt.

³ Coal Resources and qualities (raw coal) are quoted on an MTIS and air-dried basis (adb).

⁴ Coal Resources are quoted inclusive of Coal Resources that have been modified to Coal Reserves unless otherwise stated.

⁵ Resources inside LoMP refer to MTIS Resources in the LoMP layout.

⁶ Thickness and quality cut-offs applied at each project or mine are stated in the ancillary section.

⁷ Operation refers to operating mine or significant project. The mining methods are opencast (OC) and underground (UG).

⁸ Figures are reported at 100%, irrespective of percentage attributable to Exxaro, and refer to 2022 only.

⁹ Locality maps are for illustrative purposes only. Detailed maps are provided in the ancillary section.

¹⁰ Raw coal qualities (adb); CV: calorific value (gross); IM: inherent moisture; S: total sulphur and VM: volatile matter.

¹¹ The percentage difference between 2022 reported MTIS and 2021 reported MTIS. Brackets signify a decrease.

¹² The positive movement between categories and the increase in Resources inside LoMP are the result of new information.

¹³ The decrease of 12.5Mt is the result of mining (4.3Mt), model update (~1.5Mt), disposals (~4.5Mt), mining losses (~0.7Mt) and reconciliation (~2.2Mt).

¹⁴ The increase in total and inside LoMP Resources and the positive movement between categories is the result of new information and the inclusion of the Rooipan area (~33Mt).

¹⁵ The positive movement between categories is the result of new information.







¹⁶ The positive movement between categories is the result of new information.

¹⁷ Estimates are received from Anglo American Steelmaking Coal Proprietary Limited and not audited by Exxaro.

Coal Reserves

The table below details the total Coal Reserves estimated as at 31 December 2022.

Table 10: Coal Reserves

Operation ¹	Location ³	LoM (years) ⁴	Category	2022					2021					% change in RoM ⁵
				RoM and saleable tonnes ⁵					RoM and saleable tonnes ⁵					
				RoM (Mt)	RoM moisture %	Export (Mt)	Thermal (Mt)	Metal-lurgical (Mt)	RoM (Mt)	RoM moisture %	Export (Mt)	Thermal (Mt)	Metal-lurgical (Mt)	
Matla (UG) (captive market) 100% attributed to Exxaro ²		2+	Proved	129.6	9.5		130		124.0	9.1		138		5
			Probable	37.8	9.5		38		37.8	8.9		23		—
			Total	167.4	9.5		167		161.8	9.1		162		3
			Inferred Resources inside LoMP	5.6					7.6					
Leeuwpan (OC) (commercial market) 100% attributed to Exxaro ²		7	Proved	36.1	3.1		26.4		40.2	3.1		27.3		(10)
			Probable	3.3	2.6			1.5	3.2	2.6			1.9	2
			Total	39.4	3.1		26.4	1.5	43.5	3.1		27.3	1.9	(9)
			Inferred Resources inside LoMP	0.0					0.0					
Mafube⁷ (OC) (commercial market) 50% attributed to Exxaro ²		21+	Proved	80.6	8.0	44.2	12.7		26.7	5.7	18			202
			Probable	40.8	8.0	25.6	1.2		23.0	5.8	14.8			77
			Total	121.4	8.0	69.8	13.9		49.7	5.7	32.8			144
			Inferred Resources inside LoMP	1.6					1.7					
Belfast⁸ (OC) (commercial market) 100% attributed to Exxaro ²		11	Proved	35.8	3.4	31.6			37.5	3.4	33.3			(4)
			Probable	1.4	2.9	1.1			2.4	2.6	1.8			(42)
			Total	37.2	3.4	32.7			39.9	3.3	35.1			(7)
			Inferred Resources inside LoMP	1.0					0.5					
Waterberg complex														
Grootegeluk mine⁹ (OC) (commercial market) 100% attributed to Exxaro ²		19+	Proved	2 034	3.0	126	776	58	1 682	3.0	109	689	39	21
			Probable	550	3.0	37	191	6	898	3.0	58	368	21	(39)
			Total	2 584	3.0	163	967	64	2 580	3.0	168	1 057	59	—
			Inferred Resources inside LoMP	73					137					
Thabametsi project (OC) (IPP market) 100% attributed to Exxaro ²		24	Proved	0.0						0.0				—
			Probable	130	3.0		127		130	3.0		127		—
			Total	130	3.0		127		130	3.0		127		—
			Inferred Resources inside LoMP	0.0					0.0					

* Rounding of figures may cause computational discrepancies.

* Tonnages are quoted in metric tonnes and million tonnes is abbreviated as Mt.

* Inferred Resources inside LoMP refer to Inferred Resources considered for the LoMP. These Resources have not been converted to Reserves.

* Coal Reserves are quoted on a RoM Reserve tonnage basis, which represents tonnages delivered to the plant at an applicable moisture and quality basis.

* Saleable Reserve tonnage represents the product tonnes of coal available for sale on an applicable moisture basis.

* All changes more than 10% in the total Reserves of an operation are explained.

* Resource to Reserve modifying factors per operation are stated in the ancillary section.

¹ Operation refers to operating mine or significant project. Mining method: opencast (OC) or underground (UG).

² Figures are reported at 100% irrespective of percentage attributable to Exxaro and refer to 2022 only.

³ Locality maps are for illustrative purposes only. Detailed maps are provided in the ancillary section.

⁴ The + symbol is used in instances where the scheduled LoMP extends beyond the expiry of the mining right. In each instance, Exxaro has a reasonable expectation that the mining right will be renewed.

⁵ Export refers to export thermal coal except at Grootegeluk mine, where it refers to semi-soft coking coal suitable for the export and inland markets.

⁶ The percentage difference between 2022 reported RoM and 2021 reported RoM. Brackets signify a decrease.

⁷ The increase is the result of a change in the Resource base and an updated LoMP (45Mt) including the Rooipan area as a Probable Reserve (~31Mt).

⁸ Movement in categories reflects the change in the Resources base.

⁹ Movement in categories reflects the change in the Resources base.

Table 11: Coal Reserve qualities

Operation	Seam/layer	THERMAL saleable (Proved and Probable)						METALLURGICAL saleable (Proved and Probable)						COKING saleable (Proved and Probable)					
		Tonnes (Mt) ¹	CV MJ/kg	% VM	% Ash	% S	Yield %	Tonnes (Mt) ¹	CV MJ/kg	% VM	% Ash	% S	Yield %	Tonnes (Mt) ¹	CV MJ/kg	% VM	% Ash	% S	Yield %
Matla mine	Seam 2	64	23.1	23.7	23.3	0.9	100												
	Seam 4	104	18.6	22.5	31.1	1.0	100												
Leeuwpan mine	TC ²	10.7	21.2	18.6	30.2	1.1	66												
	BC ²	15.7	23.8	24.2	21.9	0.9	68	1.5	28.5	8.1	13.7	1.0	44						
Mafube mine	Middlings	31.2	21.4	21.7	26.1	0.5	29												
	Export	38.6	26.3	26.4	13.9	0.4	36												
Belfast mine	Crush and stack	13.9	18.6	20.3	30.0	0.9	100												
	Export	32.7	25.5	23.6	16.7	0.6	88												
Grootegeluk mine	All seams	967	21.6	25.1	33.2	1.3	40	64	28.7	23.9	14.0	0.6	60	163	28.6	34.8	13.1	1.1	12
	T1	64	12.7	20.0	53.9	1.1	98												
Thabametsi project³	T2	63	11.3	19.0	55.7	1.0	98												

* Rounding of figures may cause computational discrepancies.

* Volatile matter (VM), sulphur (S), ash content (ash) and gross calorific value (CV).

* Saleable Coal Reserve tonnage represents the product tonnes of coal available for sale on an applicable moisture and air-dried quality basis.

¹ Saleable product tonnages are quoted in metric tonnes and million tonnes is abbreviated as Mt.

² Top coal (TC) and bottom coal (BC).

³ Based on Thabametsi bench configuration as defined in phase 1 of the feasibility study.

Base Metal Resources

The table below details Base Metal Resources as at 31 March 2022.

Table 12: Base Metal Resources (additional to Reserves)

		2022					2021					% change in RoM³
		Tonnes and grade					Tonnes and grade					
Operation¹	Category	Tonnes (Mt)	% Zn	% Pb	% Cu	Ag g/t	Tonnes (Mt)	% Zn	% Pb	% Cu	Ag g/t	
Deeps mine⁴ Northern Cape (UG) (zinc, lead, copper and silver) 26% attributed to Exxaro²	Measured	4.2	2.4	2.4	0.3	29	4.4	2.9	3.2	0.3	34	(4)
	Indicated	8.3	2.2	1.6	0.5	25	5.9	3	2.2	0.5	31	40
	Inferred	0.0					0.0					
	Total	12.5	2.3	1.8	0.5	26	10.3	3	2.6	0.4	32	21
Swartberg mine⁵ Northern Cape (OC/UG) (zinc, lead, copper and silver) 26% attributed to Exxaro²	Measured	0.0					0.0					
	Indicated	76.8	0.9	2.0	0.3	38	72.6	0.9	2.4	0.3	43	6
	Inferred	36.1	0.9	2.2	0.3	40	19	1.4	2.6	0.2	46	90
	Total	113.0	0.9	2.1	0.3	39	91.6	1	2.4	0.3	43	23
Big Syncline project⁶ Northern Cape (OC) (zinc) 26% attributed to Exxaro²	Measured	0.0					0.0					
	Indicated	6.1	3.0	1.1		16	6.1	3	1.1		16	0
	Inferred	185.6	2.4	1.0		12	185.6	2.4	1		12	0
	Total	191.7	2.5	1.0		12	191.7	2.5	1		12	0
Gamsberg North mine⁷ Northern Cape (OC/UG) (zinc) 26% attributed to Exxaro²	Measured	7.5	7.7	0.5			1.5	6.7	0.5			391
	Indicated	35.5	6.3	0.5			34.8	6.0	0.5			2
	Inferred	22.7	6.1	0.5			5.0	8.3	0.5			351
	Total	65.6	6.4	0.5			41.3	6.3	0.5			59
Gamsberg East⁸ Northern Cape (project) (zinc) 26% attributed to Exxaro²	Measured	0.0					0.0					
	Indicated	0.0					0.0					
	Inferred	65.1	7.9	0.5		5	49.8	8.5	0.5			31
	Total	65.1	7.9	0.5		5	49.8	8.5	0.5			31
Gamsberg South⁹ Northern Cape (project) (zinc) 26% attributed to Exxaro²	Measured	0.0					0.0					
	Indicated	0.0					0.0					
	Inferred	36.0	6.1	0.5		7	23.2	7.1	0.6			55
	Total	36.0	6.1	0.5		7	23.2	7.1	0.6			55
Gamsberg Kloof¹⁰ Northern Cape (project) (zinc) 26% attributed to Exxaro²	Measured	0.0										
	Indicated	0.0										
	Inferred	18.8	8.6	0.6		7						
	Total	18.8	8.6	0.6		7						

For operations over which Exxaro has no management control, please refer to the relevant company's website for supplementary information:

www.vedantaresources.com/investor-relations/

- Rounding of figures may cause computational discrepancies.
- Percentage zinc (% Zn), percentage copper (% Cu), percentage lead (% Pb), grams per tonne of silver (Ag g/t), percentage manganese (% Mn) and percentage sulphur (% S).
- Tonnages are quoted in metric tonnes and million tonnes is abbreviated as Mt.
- Estimates are as received from Vedanta Resources at 31 March 2022 and are not audited by Exxaro.
- All changes more than 10% are explained.
- Tonnages are reported on a dry basis.

¹ Operation refers to the BMM operating mine or significant project. Mining method: opencast (OC) or underground (UG).

² Figures are reported at 100% irrespective of percentage attributable to Exxaro.

³ The percentage difference between 2022 reported MTIS and 2021 reported MTIS. Brackets signify a decrease.

⁴ The increase is mainly the result of depletion, changes to the models and increased commodity prices applied in the cut-off grade calculations used for reporting.

⁵ The increase is mainly the result of increased commodity prices applied in the cut-off grade calculations used for reporting.

⁶ Big Syncline is a brownfields exploration project. This is a high-volume, low-grade Zn deposit. The Resource was not updated in 2022 and remains the same as reported in 2021.

⁷ The increase is the result of previously reported Reserves being transferred back to Resources and increased commodity prices applied in the cut-off grade calculations used for reporting.

⁸ The increase is mainly the result of a revised and updated Resource estimate and increased commodity prices applied in the cut-off grade calculations used for reporting.

⁹ The increase is mainly the result of increased commodity prices applied in the cut-off grade calculations used for reporting.

¹⁰ Gamsberg Kloof lies to the east of the Gamsberg open pit and was estimated and declared for the first time in 2022.

Base Metal Reserves

Table 13: Base Metal Reserves

Operation ¹	LoM (years)	Category	2022					2021					% Change in RoM ³
			Grade and contained metals					Grade and contained metals					
			RoM (Mt)	% Zn	% Pb	% Cu	Ag g/t	RoM (Mt)	% Zn	% Pb	% Cu	Ag g/t	
BMM Deeps mine⁴ Northern Cape (UG) (zinc, lead, copper and silver) 26% attributed to Exxaro ²	3	Proved	0.5	2.2	2.5	0.3	31	1.3	2.7	3.5	0.3	35	(59)
		Probable	2.4	2.5	1.2	0.5	20	2.9	2.9	1.4	0.7	20	(16)
		Total	3.0	2.5	1.5	0.5	22	4.2	2.8	2	0.5	24	(29)
		Inferred Resources inside LoMP	0.0					0.0					
BMM Swartberg mine⁵ Northern Cape (OC/UG) (zinc, lead, copper and silver) 26% attributed to Exxaro ²	30	Proved	0.0					0.0					
		Probable	48.0	0.6	2.0	0.4	33	24.4	0.5	1.8	0.5	22	97
		Total	48.0	0.6	2.0	0.4	33	24.4	0.5	1.8	0.5	22	97
		Inferred Resources inside LoMP	0.0					0.0					
Gamsberg North mine⁶ Northern Cape (OC) (zinc) 26% attributed to Exxaro ²	12	Proved	69.7	6.4	0.5			79.4	6.5	0.5			(12)
		Probable	27.1	4.9	0.5			30.9	5.2	0.5			(12)
		Total	96.8	6.0	0.5			110.4	6.1	0.5			(12)
		Inferred Resources inside LoMP	0.0					0.0					

For operations over which Exxaro has no management control, please refer to the relevant company's website for supplementary information: www.vedantaresources.com/investor-relations/

- Rounding of figures may cause computational discrepancies.
- Percentage zinc (% Zn), percentage copper (% Cu), percentage lead (% Pb), grams per tonne silver (Ag g/t), percentage manganese (% Mn) and percentage sulphur (% S).
- Tonnages are quoted in metric tonnes and million tonnes is abbreviated as Mt.
- Reserves are quoted on a RoM Reserve tonnage basis, which represents tonnages delivered to the plant at applicable moisture and quality.
- Inferred Resources in LoMP refer to Inferred Resources considered for the LoMP.
- Estimates are as received from Vedanta Resources at 31 March 2022 and are not audited by Exxaro.
- All changes more than 10% are explained.

¹ Operation refers to the BMM operating mine or significant project. Mining method: opencast (OC) or underground (UG).

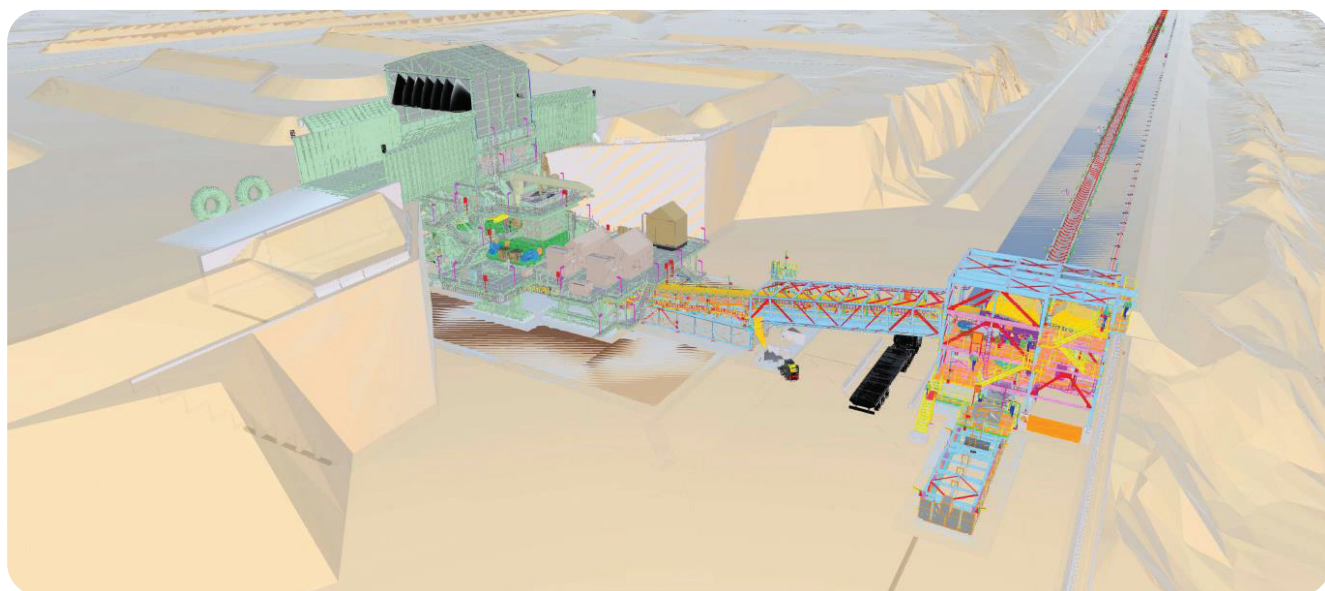
² Figures are reported at 100% irrespective of percentage attributable to Exxaro and refer to March 2022 only.

³ The percentage difference between 2022 reported RoM and 2021 reported RoM. Brackets signify a decrease.

⁴ The decrease is due to mining depletion.

⁵ The increase is the result of the completion of multidisciplinary feasibility studies completed during 2021.

⁶ The decrease is due to mining and changes to modifying factors.



Kumba Iron Ore Mineral Resources and Ore Reserves

Table 14: Kumba Iron Ore Mineral Resources (in addition to Ore Reserves)

Operation/project	Ore type	% attributable to Exxaro	Resource category	2022			2021		
				Tonnage (Mt)	Average % Fe	% Fe cut-off**	Tonnage (Mt)	Average % Fe	% Fe cut-off**
Mining operations									
Kolomela ¹									
In situ Mineral Resources (in addition to Ore Reserves)	Haematite	20.37	Measured (outside LoAP)	52.1	65.1	50	30.5	64.8	50
			Indicated (outside LoAP)	62.1	63.1		59.8	63.1	
			Measured and Indicated (outside LoAP)	114.2	64.0		90.4	63.7	
			Inferred (considered in LoAP)	1.2	64.7		6.6	64.8	
			Inferred (outside LoAP)	17.4	62.5		23.8	63.1	
			Total Inferred	18.6	62.6		30.4	63.5	
			Sub-total	132.8	63.8		120.7	63.6	
Long-term stockpiled Mineral Resources (in addition to Ore Reserves)			Measured (outside LoAP)	0.0	0.0		0.0	0.0	
			Indicated (outside LoAP)	0.0	0.0		8.7	55.2	
			Measured and Indicated (outside LoAP)	0.0	0.0		8.7	55.2	
			Inferred (considered in LoAP)	0.0	0.0		0.0	0.0	
			Inferred (outside LoAP)	0.0	0.0		0.0	0.0	
			Total Inferred	0.0	0.0		0.0	0.0	
			Sub-total	0.0	0.0		8.7	55.2	
Total Mineral Resources (in addition to Ore Reserves)			Measured (outside LoAP)	52.1	65.1		30.5	64.8	
			Indicated (outside LoAP)	62.1	63.1		68.5	62.1	
			Measured and Indicated (outside LoAP)	114.2	64.0		99.1	62.9	
			Inferred (considered in LoAP)	1.2	64.7		6.6	64.8	
			Inferred (outside LoAP)	17.4	62.5		23.8	63.1	
			Total Inferred	18.6	62.6		30.4	63.5	
			Sub-total	132.8	63.0		129.4	63.0	
Sishen ²									
In situ Mineral Resources (in addition to Ore Reserves)	Haematite	20.37	Measured (outside LoAP)	175.3	59.4	40	176.7	59.4	40
			Indicated (outside LoAP)	222.2	55.4		222.4	55.4	
			Measured and Indicated (outside LoAP)	397.4	57.2		399.2	57.2	
			Inferred (considered in LoAP)	11.7	50.6		12.6	50.8	
			Inferred (outside LoAP)	24.4	56.7		24.6	56.7	
			Total Inferred	36.1	54.7		37.2	54.7	
			Sub-total	433.5	57.0		436.3	57.0	
Long-term stockpiled Mineral Resources (in addition to Ore Reserves)			Measured (outside LoAP)	0.0	0.0		0.0	0.0	
			Indicated (outside LoAP)	0.0	0.0		0.0	0.0	
			Measured and Indicated (outside LoAP)	0.0	0.0		0.0	0.0	
			Inferred (considered in LoAP)	0.0	0.0		0.0	0.0	
			Inferred (outside LoAP)	0.0	0.0		0.0	0.0	
			Total Inferred	0.0	0.0		0.0	0.0	
			Sub-total	0.0	0.0		0.0	0.0	
Total Mineral Resources (in addition to Ore Reserves)			Measured (outside LoAP)	175.3	59.4		176.7	59.4	
			Indicated (outside LoAP)	222.2	55.4		222.4	55.4	
			Measured and Indicated (outside LoAP)	397.4	57.2		399.2	57.2	
			Inferred (considered in LoAP)	11.7	50.6		12.6	50.8	
			Inferred (outside LoAP)	24.4	56.7		24.6	56.7	
			Total Inferred	36.1	54.7		37.2	54.7	
			Sub-total	433.5	57.0		436.3	57.0	
Company									
Kumba Iron Ore	Haematite	20.37	Measured (outside LoAP)	227.4	60.7		207.3	60.2	
			Indicated (outside LoAP)	284.2	57.1		291.0	57.0	
			Measured and Indicated (outside LoAP)	511.6	58.7		498.2	58.3	
Grand total Mineral Resources (in addition to Ore Reserves)			Inferred (considered in LoAP)	12.9	51.9		19.2	55.6	
			Inferred (outside LoAP)	41.8	59.1		48.3	59.8	
			Total Inferred	54.7	57.4		67.5	58.6	
			Sub-total	566.3	58.6		565.8	58.3	

For operations over which Exxaro has no management control, please refer to the relevant company's website for supplementary information: www.angloamericankumba.com/investors

Mineral Resources are reported as additional to Ore Reserves

• The tonnages are quoted in dry metric tonnes and million tonnes is abbreviated as Mt.

• Rounding of figures may cause computational discrepancies.

• Mineral Resource figures are reported at 100% irrespective of percentage attributable Exxaro ownership.

• The term Inferred Mineral Resource (outside life of asset plan (LoAP)) refers to that portion of the Inferred Mineral Resources not utilised in the LoAP.

• The term Inferred Mineral Resource (considered for LoAP) refers to that portion of the Inferred Mineral Resources utilised in the LoAP; reported without having any modifying factors applied – therefore the term “considered for LoAP” instead of “inside LoAP”.

• While it would be reasonable to expect that the majority of Inferred Mineral Resources would upgrade in confidence to Indicated Mineral Resources with continued exploration, due to the uncertainty of Inferred Mineral Resources, it should not be assumed that such upgrading will always occur on a one-to-one basis.

** The cut-off grade quoted for each of the Kumba sites is a fixed in situ Fe percentage.

¹ **Kolomela mine:** Mineral Resources are reported above a cut-off of 50.0% Fe in situ. The increase is primarily due to reallocation of Ore Reserves at the Kapstevl South pit. This was partially offset by the conversion of long-term stockpiled medium-grade Mineral Resources to Ore Reserves.

² **Sishen mine:** Mineral Resources are reported above a cut-off of 40.0% Fe in situ.

Table 15: Kumba Iron Ore, Ore Reserves

Operation status			2022						2021										
			Reserve category	Tonnage (Mt)	Average Grade (% Fe)	Grade cut-off* (%Fe)	Reserve life** (years)	Metal-lurgical yield (%)	Saleable Product tonnage (Mt)	Saleable Product Grade (%Fe) Average	Tonnage (Mt)	Average Grade (% Fe)	Grade cut-off* (%Fe)	Reserve life** (years)	Metal-lurgical yield (%)	Saleable Product tonnage (Mt)	Saleable Product Grade (%Fe) Average		
Operation/project	Mining operations	% attributable to Exxaro																	
Kolomela¹			Proved	97.9	63.8						92.3	64.8	102.0	63.8				97.9	64.8
			Probable	21.8	63.5						20.5	64.3	33.0	63.3				31.7	64.5
			Sub-total	119.6	63.7						112.9	64.7	135.0	63.7				129.6	64.7
			Proved	0.0	0.0	50	12	94.3			0.0	0.0	0.0	0.0			0	0	
			Probable	21.4	61.1						20.2	62.1	11.5	63.3			11.1	64.2	
Ore Reserves from RoM buffer stockpiles			Sub-total	21.4	61.1						20.2	62.1	11.5	63.3			11.1	64.2	
			Proved	97.9	63.8						92.3	64.8	102.0	63.8			97.9	64.8	
Total Ore Reserves			Probable	43.2	62.3						40.7	63.2	44.6	63.3			42.8	64.4	
			Sub-total	141.1	63.3						133.1	64.3	146.5	63.6			140.7	64.7	
Sishen²																			
	Proved	364.9	57.6						255.5	64.7	384.9	57.6			269.4	64.7			
	Probable	192.8	47.7						107.2	59.8	211.3	48.9			120.4	61.1			
	Sub-total	557.7	54.2						362.8	63.3	596.2	54.5			389.8	63.6			
	Proved			40	17	64.5					0.0	0.0			0	0			
	Probable	60.7	52.3						36.3	63.0	57.2	48.3			35.1	59			
	Sub-total	60.7	52.3						36.3	63.0	57.2	48.3			35.1	59			
	Proved	364.9	57.6						255.5	64.7	384.9	57.6			269.4	64.7			
	Probable	253.5	48.8						143.6	60.6	268.5	48.8			155.5	60.6			
	Total Ore Reserves	Sub-total	618.4	54.0						399.1	63.2	653.4	54.0			424.9	63.2		
Company																			
	Kumba Iron Ore																		
		Proved	462.8	58.9			70.1			347.9	64.7	486.9	58.9		70.7	367.4	64.7		
		Probable	296.7	50.8						184.3	61.2	313.0	50.9			198.2	61.4		
	Grand total Ore Reserves	Sub-total	759.4	55.7						532.2	63.5	799.9	55.8			565.6	63.5		

For operations over which Exxaro has no management control, please refer to the relevant company's website for supplementary information: www.angloamericankumba.com/investors

* The tonnages are quoted in dry metric tonnes and million tonnes is abbreviated as Mt.

** Rounding of figures may cause computational discrepancies.

* Ore Reserve figures are reported at 100% irrespective of percentage attributable ownership to Exxaro.

* Saleable product figures are reported at 100% irrespective of percentage attributable ownership to Exxaro.

* Yield is calculated as: saleable product tonnes/Ore Reserves tonnes x 100.

* The cut-off grade assigned to Ore Reserves is variable and is dependent on the beneficiability and/or blending capacity of the modified ore scheduled as RoM, which is iteratively determined during LoAP scheduling to achieve a scheduling grade target that is set to meet the Client product specifications. The % Fe cut-off illustrated is therefore the lowest of a range of variable cut-offs for the various mining areas.

** Reserve life represents the period in years in the approved LoAP for scheduled extraction of Proved and Probable Reserves. The reserve life is limited to the period during which the Ore Reserves can be economically exploited. Where the scheduled Ore Reserves fall below 25% of the average annual production rate, the period beyond this is excluded from the Reserve life. The reserve life also does not exceed the security of tenure expiry date.

¹ **Kolomela mine:** Ore Reserves are reported above a processing plant feed derived cut-off of 50.0 % Fe inclusive of dilution. Plant recoveries for the Saleable Product range from 92.9%-95.8%. Ore Reserves decreased primarily due to production and revised pit layout for Kapspevel South, which resulted in reallocation to Mineral Resources. This was partially offset by the conversion of medium-grade Mineral Resources to Ore Reserves and geological model updates.

² **Sishen mine:** Ore Reserves are reported above a processing plant feed derived cut-off of 40.0 % Fe inclusive of dilution. Plant recoveries for the Saleable Product range from 30.4%-74.0%. Ore Reserves decreased due to production.