tharisa

2024 sustainability

enriching lives through innovating
the resources company of the future

DISCOVER
DEVELOP
DELIVER
DIVERSIFY

Our operating environment

Tharisa's operating environment in southern Africa presented significant challenges during the year. Lower PGM prices, particularly for platinum, palladium and rhodium, impacted profitability across the industry, while rising energy costs, exacerbated by frequent load-shedding, and logistical challenges added to the cost base. As a result, many mining companies are reluctant to invest in new ventures. Despite these difficulties, with a cost advantage in our opencast Tharisa Mine, we are confident in our ability to deliver growth for our employees, communities and suppliers.

Our approach to sustainability

Tharisa has made significant advances in embedding focus on ESG factors in our business over the past year and enhancing controls thereof. Our comprehensive Sustainability Framework prioritises safety, environmental stewardship and social initiatives. We actively engage in social programmes that address critical issues such as education, healthcare and economic development. Building mutual respect and trust with our stakeholders is central to our operations, and we strive to implement practical, sustainable and clean technology solutions that generate meaningful social and economic impacts.

We understand the importance of a just transition to sustainability and have developed clean energy initiatives that support the long-term viability of the Group and the communities in which we operate, and seek to balance the economic benefits of our operations with their impacts on local communities in which many of our skilled workforce live.

Sustainability-related governance

Governance is essential to our purpose of enriching lives through innovating the resources company of the future and we focus on responsible stewardship and long-term value creation. The entire Board of Tharisa oversees sustainability-related impacts and oversees our framework by addressing critical global issues aligned with the United Nations Sustainable Development Goals (SDGs) while considering local needs. This framework seeks to minimise our environmental footprint, ensures zero harm and fosters meaningful stakeholder engagement. At each Board meeting, the Board receives updates on climate change risk mitigation and the Company's progress in implementing our sustainability strategy. This not only includes reporting on decarbonisation of operations but also updates on upholding business ethics, enforcing our Code of Conduct, respecting human rights, enhancing transparency and promoting responsible sourcing.

Safe production

We are committed to achieving zero harm across our operations and make safety a core tenet of our corporate culture. This concentrates on the importance of employee and contractor wellbeing. To uphold this commitment, Tharisa constantly reviews and enhances it robust safety and health policies and provides comprehensive training programmes that promote shared responsibility and proactive risk management.

During the year, the executive team has focused specifically on enhancing safety risk controls. This resulted in improved safety metrics with the Group reporting a 0.00 lost-time injury frequency rate (LTIFR) in 2024 (2023: 0.13 LTIFR). This focus will continue with a Group-wide commitment to enhancing safety standards and investment in resources and technologies to ensure a safer working environment. This culture of vigilance and innovation is crucial to our vision to attain industry-leading standards and achieving zero harm across our operations.

Further details are addressed on pages 88 to 90.

Employee and community investments

This year, Tharisa Minerals provided direct employment to 1 967 employees with R1.15 billion paid in wages and benefits (2023: R1.01 billion) which highlights our commitment to fair compensation.

Our socioeconomic development (SED) spend increased by over 12% year-on-year to R36.5 million (2023: R32.4 million). This investment is channelled to SED programmes that generate employment and improve health, education and infrastructure for host communities.

Recognising the desirability to procure goods and services locally, and a growing demand for procurement opportunities from our host communities, we spent R60.4 million (2023: R18.5 million) with local communities. This reflects our ongoing commitment to inclusive growth and development across all regions we operate in.

Our procurement efforts positively impacted local economies with ZAR60.4 million spent during the financial year in the area surrounding the Tharisa Mine near Rustenburg in the North West province of South Africa. This was mirrored in our Karo Mine development in Zimbabwe where we prioritised local sourcing. By year-end, we had 134 permanent employees on site at the Karo Platinum Project in Zimbabwe with 18% being female, reflecting our commitment to diversity and providing local employment, with 34% of local employees drawn from the community.

Our community trust

The Tharisa Community Trust is a shareholder in the Group and, like all other shareholders, receives dividends, totalling over US$300 000 in the last two years, reflecting the Group's profits while providing considerable economic benefit to beneficiaries of the trust.

Tharisa has invested US$2.3 million in skills development training programmes (2023: US$2.3 million), which enhance the capabilities of local individuals and foster personal and professional growth. These initiatives equip community residents with marketable skills relevant to the mining sector and other local industries thereby enhancing employment prospects.

Tharisa's community investment strategy emphasises sustainable development and economic stability and helps to build a resilient workforce able to evolve with changing employment market trends. This benefits local family prosperity and enhances the community's overall economic vitality. By reinvesting the dividends accruing to the community trust in community development, Tharisa aims for benefits to extend beyond immediate short-term financial returns by investing in a local economy that supports sustainable livelihoods for future generations and building a more equitable and prosperous community.

Diversity and inclusion

We recognise that diversity and inclusion are essential for creating a workplace where all employees can thrive, regardless of their individual differences. By fostering an environment that enables everyone to contribute, we cultivate a sense of belonging and empowerment. Our core principles include an unwavering commitment to uphold human rights and eliminate all forms of discrimination based on race, job title, gender, religion, background or sexual orientation. We believe that a diverse, equitable and inclusive environment is not only a moral obligation but also a key driver of innovation that enhances our collective abilities and boosts our competitiveness in the global marketplace.

In 2024, women again represented 26% of our total workforce and 30% of the Board of Directors (2023: 20%). These statistics reflect our consistent efforts to increase female representation across all levels of our organisation. We have also made significant strides to promote historically disadvantaged persons (HDPs) in our South African management teams, achieving 81% representation in 2024, up from 69% in 2023. These advances highlight our commitment to breaking barriers and creating a more inclusive leadership structure.

Addressing climate change

As reported in prior years, we are committed to reducing our carbon footprint and aligning our operations to be meaningful in supplying a decarbonised world with the metals required to achieve the global transition away from fossil fuels.

In July 2024, we achieved a major milestone in reducing the carbon footprint of the electricity used at the Tharisa Mine. A long-term power purchase agreement (PPA) was signed for the procurement of wheeled renewable energy for the Tharisa Mine. Under this 15-year agreement with Etana Energy Proprietary Limited (Etana), Etana will provide up to 44% of the Tharisa Mine's electricity energy demand via wheeled energy from wind and solar farms in the Western Cape and Northern Cape using the existing electricity transmission grid. The wheeled energy is planned to come on stream in 2026. This transaction will not only enable the Tharisa Mine to manage its power cost more effectively but also to benefit from the renewable energy certificates arising from the transaction. This wheeled energy will complement the Tharisa Mine's 40 MW solar power plant being developed by TotalEnergies Renewables South Africa Proprietary Limited and Chariot Transitional Power South Africa Proprietary Limited, which is designed to provide 30% of the Tharisa Mine's energy needs.

Together, the Etana PPA and our solar project will ensure that Tharisa Minerals' target to reduce its carbon footprint by 30% by 2030 is well within reach. Furthermore, they will also guarantee predetermined power costs for a significant portion of overall power needs, with up to 76% of Tharisa Minerals' energy needs being provided by renewable energy from 2026 onward under these agreements.

We are also collaborating with Chariot Transitional Power on similar renewable energy projects at our subsidiary in Zimbabwe, Karo Platinum. These initiatives reflect our belief that innovation can produce power solutions that are both economic and sustainable so that we can play our part in the global energy transition.

From mine to megawatt

Tharisa's focus on innovation has led to the development of a new battery storage solution through its subsidiary, Redox One. Over the past five years, we have developed a redox flow battery using chrome, a product of the Tharisa Mine, as a low-cost, safe and sustainable electrolyte. This technology will initially be deployed at the Tharisa Mine to store excess solar energy and reduce our reliance on purchasing non-renewable sources from the national electricity grid. The chrome-based battery also has potential applications in other industries beyond mining, which could support the global transition to cleaner energy in other sectors.

Commitment to transparent reporting

As a global leader in the supply of PGMs and chrome, we prioritise honesty, integrity, transparency and flexibility in our operations. We recognise that transparent reporting is a moral obligation and is essential in our journey to ensuring the multigenerational sustainability of Tharisa. We have a good story to tell about our organisational behaviour and initiatives we have taken so far and look forward to reporting with clarity and transparency in future years.

Outlook

The sustainability outlook for Tharisa is developing positively, driven by the increasing focus on ESG factors described above. These include significant steps in reducing our environmental footprint by investing in solar photovoltaic (PV) and decreasing reliance on coal-fired electrical power supplied from the electricity grid, which continues to experience supply security issues. We will also continue to support local communities by providing work and support to improve skills and wellbeing.

Water management and biodiversity conservation will continue to be key priorities, with efforts to reduce water intensity and achieve net positive biodiversity impacts.

By demonstrating resilience and commitment to sustainable practices and innovation, we believe we are positioning Tharisa to play a significant role in the global transition to a low-carbon economy while ensuring long-term value creation for all stakeholders.

Dr Carol Bell
Chair of the Climate Change and Sustainability Committee and Lead Independent Non-Executive Director

27 November 2024

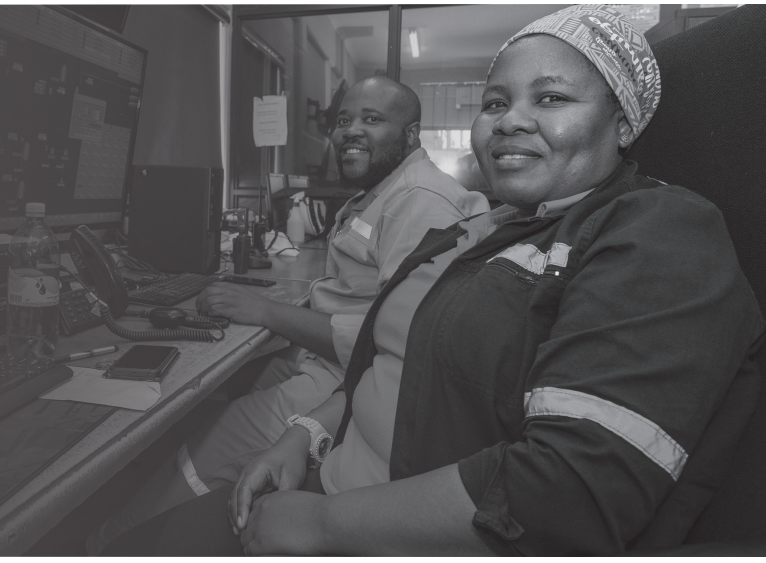
Environment

Tharisa encourages a balance between long-term benefits with immediate returns and the goal of pursuing inclusive and environmentally sound objectives. In doing this, Tharisa is committed to cutting emissions, lowering energy usage, sourcing products from fair-trade organisations, and ensuring our physical waste is disposed of properly and with a lower-carbon footprint.

Social

The holistic wellbeing of our employees is a priority to us because we believe good health goes beyond the physical. Tharisa takes mental health and social wellbeing very seriously.

People are our greatest asset and we aim to assist and care for our fellow employees with a clear wellness strategy. A well-established referral structure and allocating the necessary resources for employees to feel valued, supported, heard, safe and cared for.



Governance
Health and safety

Tharisa is fully committed to accountability, integrity, fairness, transparency and integrated thinking, which are essential to the Group's long-term sustainability and its ongoing ability to create value for investors and other stakeholders. It endorses and accepts full responsibility for applying the principles necessary to ensure effective corporate governance is practised consistently throughout the Group.

Key data

Environment

Total energy consumption GJ

2 368 780

(2023: 2 241 328)

Total CO_2 emissions (Scope 1) tCO_2e

133 381

(2023: 123 555)

Diesel used (M litres)

44

(2023: 42)

Social

Employees who received learnerships, bursaries, study assistance internships and skills and enterprise development training

111

(2023: 75)

Total amount spent on SLPs/CSI

ZAR36.5m

(2023: ZAR32.4m)

Total amount spent on procurement from HDP, women and BBBEE-compliant companies

ZAR6.04bn

(2023: ZAR2.27bn)

Health

Number of employees and contractors who underwent hearing tests (via medical surveillance programme)

7 883

(2023: 7 934)

Number of employees screened for TB/silicosis (via medical surveillance programme)

3 475

(2023: 3 094)

Occupational diseases (number of new silicosis/TB and NIHL)

0

(2023: 0)

Number of employees and contractors voluntarily tested for HIV/AIDS

3 948

(2023: 3 876)

Environment

Tailings volume (Mm^2)

1.17 m

(2023: 1.15 m)

Social

Total spent on local/host community suppliers

ZAR60.4m

(2023: ZAR18.9 m)

Safety (Tharisa Minerals)

Fatalities

0

(2023: 1)

LTIFR

0

(2023: 0.13)

Integrating sustainability into our business and investment decision making has been a feature of Tharisa for some time. We have always sought to improve our employees' lives and those of the communities in which we operate.

In recent years, we have put more **focus** on measuring **environmental data** in recognition of the need to reduce our carbon **footprint** and impact on the natural environment in a way that is documented comprehensively.

We aim to **minimise our impact** on the **landscape** to benefit the **community's sustainability** when our operations cease.

By now, as a company, we can demonstrate how **embedding ESG** and **sustainability** within our **strategy** makes a difference. This report builds on the **ESG disclosures** we have provided in the past and ensures that all our **stakeholders** are **informed** promptly and transparently. It also **illuminates the pathway towards our 2030 and 2050 goals** concerning our decarbonisation pathway using renewable energy and our internal innovation capabilities.

OUR APPROACH TO SUSTAINABILITY

Sustainability encompasses the capacity to maintain or support processes over time and ensures that natural and physical resources are preserved for future generations.

At Tharisa, we are dedicated to embedding sustainability in our core values and ethos. We recognise its vital role in driving our long-term success and fulfilling our responsibilities to the planet. Our approach to sustainability involves a structured process for identifying and evaluating key Environmental, Social and Governance (ESG) risks and opportunities. This allows us to effectively manage social, economic and environmental impacts while aligning our operations with stakeholder expectations and enhancing overall resilience. Guided by our Sustainability Framework, we aim to contribute to the United Nations SDGs and foster strong relationships with local communities to promote sustainable development.

To evaluate our sustainable practices, Tharisa employs the Harvard Business School theory, which focuses on understanding the effects of our operations on society and the environment. This chapter builds on our previous ESG disclosures and provides transparent information about our progress and initiatives. This demonstrates the tangible difference made by embedding ESG and sustainability into our strategy and core values. We also outline our decarbonisation pathway towards 2030 and 2050, which is driven by adopting renewable energy and internal innovation.

Our ESG framework

Our ESG framework offers stakeholders a comprehensive overview of Tharisa's alignment with ESG principles, enabling the Group to manage risks and seize related opportunities effectively. Tharisa is committed to a holistic approach and recognises that sustainability encompasses more than just environmental issues.

Sustainability has long been a priority in our business and investment decisions and enhances the lives of our employees and the communities we serve. We have recently intensified our efforts to measure environmental data, focusing on reducing our carbon footprint and minimising our impact on the natural environment. This data aims to inform decisions that leverage opportunities and mitigate risks. Our commitment to environmental and social stewardship seeks to minimise the long-term impact on the landscape, ensuring that sustainability extends beyond the life of our mining operations.

Enriching lives through innovating the resources company of the future

Environment	Social	Governance
• Climate change	• Health and safety	• Good corporate governance
• Energy	• Employee wellbeing, diversity and inclusion	• Ethical behaviour
• Water	• Community safety and wellbeing	• Risk and crisis management
• Air quality	• Human rights	• Compliance
• Waste management		• Reporting and voluntary disclosures
• Biodiversity		
• Rehabilitation and closure		

Sustainability governance

As a global PGM and chrome supply market leader, we operate with honesty, integrity, transparency and flexibility. We recognise that impact reporting is essential not only for accountability, but also for advancing our commitment to multigenerational sustainability at Tharisa. Over the years, we have made significant strides in fulfilling the United Nations SDGs and objectives, and this progress will be highlighted in this section.

Our ESG principles and commitments

Principles	Commitments	2024 progress
1. New business cases and investments will be evaluated against ESG principles	• Conduct ESG due diligence and risk assessments for new and existing investments • Build internal capacity to implement the ESG framework and fulfil commitments • Integrate the ESG framework into Tharisa's daily operations	• We are committed to expanding our business and identifying opportunities for improvement and economic growth, with ESG due diligence now a critical step before making decisions on existing and new opportunities • An ESG framework for Tharisa has been developed and is currently being implemented in our daily operations
2. Adhere to governance and promote ethical practices across the Group	• Make decisions aligned with the existing governance framework • Report the Group's ESG performance bi-annually and annually in accordance with Global Reporting Initiative (GRI) standards	• IBIS Consulting has been appointed as Tharisa's sustainability assurance provider for 2024 and provides a third-party perspective to ensure the accuracy and transparency of our ESG data • IBIS Consulting has validated the Group's ESG performance standards in accordance with GRI standards
3. Encourage and promote engagement on ESG issues with stakeholders	• Collaborate with dedicated departments to engage with local (host) communities on relevant ESG issues • Cultivate positive relationships with state organs and regulators	• We conduct regular engagements with local communities, allowing them to raise ESG issues and facilitating collaboration between the mine and the community to address these concerns • The mine maintains solid working relationships with state entities and regulators to ensure ongoing compliance with all authorisations
4. Adopt new technology solutions to assist in the transition to a low-carbon economy	• Engage in ongoing strategic partnerships to adopt cutting-edge mining machinery technology • Integrate stakeholders in asset replacement processes to explore low-carbon solutions in the mining value chain	• Tharisa is committed to enhancing our operations by transitioning to a low-carbon footprint through various carbon reduction strategies outlined in this section
5. Achieve a 30% carbon reduction by 2030	• Transition to renewable energy with a ZAR1 billion investment in a solar energy project to supply Tharisa Mine by Q2 2025 • Implement offsetting measures to reduce Scope 1 and 2 emissions where applicable	• We are transitioning to renewable energy sources to power the mine, with a consortium committing approximately ZAR 1 billion to a solar energy project to supply Tharisa Mine by Q2 2025 • This solar project will help reduce our Scope 2 emissions
6. Achieve carbon neutrality by 2050	• Our research and facility unit is actively trialling carbon neutralisation projects	• Our Research and Development (R&D) Department is currently testing carbon neutralisation projects, which will be implemented as they become feasible
7. Environmental stewardship	• Develop biodiversity management plans to mitigate impacts on sensitive areas and new developments • Improve water usage efficiency across all operations • Align with international best practices for environmental stewardship	• A biodiversity strategy has been developed and will be implemented in 2025 • Tharisa focuses on understanding the mining and processing water balance to assess water reticulation (gains and losses) and identify ways to reduce water usage and enhance reuse

Sustainability development goals

The SDGs represent a universal call to action to end poverty, protect the planet, and ensure peace and prosperity for all. Disclosing our environmental and social risks and our commitment to relevant SDGs is essential due to our significant impact in these areas. Understanding and managing these risks is crucial for our business growth and alignment with the SDGs.

We recognise that addressing environmental and social risks is vital for advancing the SDGs and ensuring long-term business success. Tharisa's sustainability strategy aligns with all 17 SDGs, focusing on nine where we can have the most substantial social and environmental impact. Our approach combines responsible risk management with value creation for stakeholders, benefitting both our business and surrounding communities.

We are dedicated to fostering a sustainable and resilient global environment, driving us to align with, adhere to, and exceed the SDGs. Despite our developmental initiatives' inherent risks and impacts, we remain committed to managing these challenges responsibly. This report highlights our progress in renewable energy, community development and environmental stewardship and demonstrates our commitment to sustainable development and meaningful change.

Our contribution to achieving SDGs

United Nations SDGs	Environment/ social aspects	Environment/ social risks	Commitments made to reducing our risk	Our status
 NO POVERTY	Food security	• Hunger and malnutrition • Food insecurity	• Promote economic growth through job creation, infrastructure development and tax contributions • Implement community development projects, including skills training, entrepreneurship initiatives and social welfare programmes • Prioritise preferential procurement by sourcing goods and services from local businesses • Protect natural resources and biodiversity for the long-term sustainability of communities • Provide food donations, including parcels for matric winter school, in partnership with Engen • Establish vegetable gardens at local schools to create sustainable jobs and provide access to food	✓
 GOOD HEALTH AND WELLBEING	Health	• Spread of communicable and non-communicable diseases	• Contribute to good health and wellbeing by providing medical services, including relevant medication and counselling for employees and communities • Conduct annual health campaigns and medical assessments for all employees and contractors to improve access to health and welfare services • Offer holistic wellbeing support for employees at no cost, including lifestyle disease assessments and ongoing health initiatives	✓
 GENDER EQUALITY	Equality	• Discrimination and harassment • Alienation based on: – Gender – Sexual orientation – Marital or civil partner status – Gender reassignment – Race – Religion or belief – Skin colour – Nationality – Ethnic or national origins – Disability – Age	• Attract and support women in management positions, particularly in the mining sector, while fostering diversity and inclusion to ensure women occupy decision-making roles • Enforce solid anti-discrimination policies and focus on gender safety across all operations to create a safe work environment and maintain a fair pay policy • Conduct campaigns and raise awareness to eradicate gender-based violence (GBV) and promote the inclusion of women in management and decision-making authorities	✓
 CLEAN WATER AND SANITATION	Water	• Contamination of water resources • Overconsumption of water in a water-scarce country leading to reduced availability for surrounding communities	• Ensure access to clean water and sanitation through effective water management systems, treatment technologies, safe hygiene practices, and regular quality assessments to minimise water use and footprint • Monitor water quality and quantity, inputting data into models to identify pollution sources and mitigate risks, while maintaining stormwater management infrastructure for compliance with GN704 Regulations • Reduce water consumption and discharges by reusing and recycling processed water, and implement a salt and water balance along with water meters for accurate data collection	✓

United Nations SDGs	Environment/ social aspects	Environment/ social risks	Commitments made to reducing our risk	Our status
 AFFORDABLE AND CLEAN ENERGY	Power usage	• Exploitation of non-renewable resources • Overconsumption of electricity that increases the strain on the national grid	• Reduce dependence on coal-generated electricity and diesel generators • Invest in solar PV and renewable energy systems to lower reliance on fossil fuels and reduce greenhouse gas (GHG) emissions • Construct a 40 MW PV solar plant to supply energy to the mine, targeting a 30% emissions reduction by 2030 • Implement energy-saving initiatives, including LED lights, solar geysers and solar-powered systems • Progressively install green energy fuel equipment to exploit effective opportunities	✓
 DECENT WORK AND ECONOMIC GROWTH	Employment	• Exploitation through forced or child labour • Increased unemployment and poor-quality jobs with unsafe working conditions and unstable income	• Comply with the Labour Relations Act and relevant legal statutes • Create sustainable work opportunities for youth, host communities and historically disadvantaged individuals • Offer competitive remuneration and benefits • Focus on skills development and supply chain investment to achieve full and productive employment, ensuring decent work for all in the communities where we serve	✓
 RESPONSIBLE CONSUMPTION AND PRODUCTION	Waste	• Soil, water and natural resource contamination • Insufficient disposal space resulting from improper waste management	• Achieve significant waste reduction with increased recycling and reuse • Use engineered waste rock dumps (WRDs) and tailings storage facilities (TSFs) to prevent contamination • Safely dispose of non-recyclable waste in landfill sites • Implement effective mining methods to reduce waste generation and enhance run-of-mine (ROM) production • Focus on sustainable management of natural resources and minimise environmental footprint through responsible consumption, innovation and circular economy principles	✓
 CLIMATE ACTION	Climate change	• Release of increased GHGs to the environment	• Energy reduction and adoption of renewable energy systems • Waste recycling and reduction initiatives • Monitoring GHG inventory and compliance with annual reporting requirements to the Department of Forestry, Fisheries and the Environment through the South African Greenhouse Gas Emissions Reporting System (SAGERS)	✓
 LIFE ON LAND	Biodiversity	• Loss of protected species • Encroachment of alien invasive species • Decline in natural biodiversity (fauna and flora)	• Eradication of alien invasive species • Rehabilitation of impacted and unused areas • Provision for post-closure management	✓
 PEACE, JUSTICE AND STRONG INSTITUTIONS	Legal compliance	• Fines and penalties imposed by authorities • Reputational risk due to inadequate environmental protection	• Obtain all necessary legislative permits and authorisations • Conduct environmental and legal audits to assess Tharisa's Environmental Management Programme (EMPr) compliance with relevant legislation, including the Mineral and Petroleum Resources Development Act (MPRDA), National Environmental Management Act (NEMA), National Environmental Management Waste Act (NEMWA) and National Water Act (NWA) • Secure approval from competent authorities before implementing new activities	✓

* Unless otherwise indicated, the data refers to Tharisa Minerals as Karo is still in development

OUR ENVIRONMENTAL STEWARDSHIP

Our environmental strategy is closely tied to our core values and purpose and emphasises our commitment to sustainability and responsible stewardship. It aims to mitigate environmental impacts across our operations and value chain through initiatives that reduce our ecological footprint, promote biodiversity and ensure responsible resource use.

To support this, we have implemented rigorous compliance programmes that adhere to local, national and international regulations to ensure we monitor our environmental performance and exceed industry standards. These measures protect our operations from environmental risks and enhance our resilience in a complex business landscape.

We strive to lead by example in our industry through ongoing evaluation and adaptation of our initiatives, inspiring others to embrace sustainable practices. This allows us to fulfil our corporate responsibility and contribute to a more sustainable and equitable future for all.

Transparency and accountability are vital to building trust with stakeholders, including employees, customers and community members. We promote collaboration and responsibility by sharing our environmental performance data and sustainability progress. Through our many initiatives we have reduced the number of level 3 – level 5 incidents from five in FY2023 to one in FY2024.

Climate, water, waste and energy

Sustainability refers to the ability to maintain or support processes over time. In business, it aims to prevent the depletion of natural resources to ensure their availability for future generations. We are committed to integrating sustainability into our ethos and company values.

Utilising the Harvard Business School theory, Tharisa measures its sustainable practices by assessing our impact on the environment and society. We aim to achieve a positive effect in at least one of these areas. We strive to balance long-term benefits with immediate returns while pursuing inclusive and environmentally sound objectives. To this end, we remain dedicated to reducing emissions, lowering energy consumption, sourcing products from fair-trade organisations and ensuring the proper disposal of physical waste with a lower-carbon footprint.

Key environmental performance indicators

Indicators	2024	2023	2022
Total water consumption	**2 751 505 m³**	1 776 553 m³	3 485 152 m³
Total electricity consumed	**218 996.81 MWh**	213 390 MWh	208 750 MWh
Total energy consumption	**2 368 780 GJ**	2 241 328 GJ	2 238 622 GJ
Total CO_2 emissions	**6 276 630 tCO_2e**	5 542 515 tCO_2e	5 389 848 tCO_2e
Total fuel purchased	**44 M litres**	41 M litres	42 M litres
Total waste generated (solid)	**1 960 tonnes**	3 163 tonnes	4 079 tonnes
Total liquid waste	**8 170 Kℓ**	9 156 Kℓ	1 172 Kℓ

Matters material to environmental stewardship

ENVIRONMENTAL STEWARDSHIP

Responsible sourcing
Climate change and resilience
Energy consumption
Water stewardship
Biodiversity
Air quality management
Tailings management
Waste management
Rehabilitation and closure

The SDGs we contribute to through our approach to environmental stewardship

We actively engage with six specific SDGs that align with our environmental focus: SDG 6 (clean water and sanitation), SDG 7 (affordable and clean energy), SDG 12 (responsible consumption and production), SDG 13 (climate action), SDG 15 (life on land) and SDG 16 (peace, justice and strong institutions).

Our approach to environmental management

We aim to create positive outcomes in critical areas while balancing immediate returns with long-term benefits. This holistic approach drives our commitment to reducing emissions, minimising energy consumption, sourcing from fair-trade organisations and ensuring responsible waste disposal to reduce our carbon footprint.

Our strategic stewardship approach underpins our sustainability initiatives and commitments for 2030 and 2050. We enhance our operational resilience and long-term viability by aligning our practices with the six specific SDGs mentioned above. Through continuous innovation and stakeholder engagement, Tharisa aims to lead by example in promoting sustainable practices in the mining industry to ensure a thriving planet for future generations.

Energy management

The efficient use of electricity is essential for the mine's operations and processing plants with electricity powering the latter and diesel fuelling mining machinery. Tharisa aims to reduce its dependency on non-renewable resources by focusing on renewable energy generation. We purchased 44 519.36 m³ of fuel (2023: 41 497.96 m³) while electricity consumption reached 218 996.81 MWh (2023: 213 390.04 MWh).

Committed to aligning with the SDGs, Tharisa targets a 30% reduction in its carbon footprint by 2030 and aims for carbon neutrality by 2050. Key initiatives in 2024 included conducting a feasibility study on using moringa trees for biodiesel production, constructing a 40 MWh solar farm with anticipated operation by Q2 2025 and investigating an electricity wheeling arrangement for renewable energy supply up to 250 MWh when solar power is insufficient.

Climate change

We recognise climate change as a critical global challenge that necessitates reducing GHG emissions throughout our value chain while enhancing operational resilience and maintaining transparent stakeholder communication. Our decarbonisation strategy, endorsed by our Board, commits us to adopting renewable and low-carbon energy sources and addressing climate change impacts on our business. Climate-related issues are reviewed quarterly by our Board committees with the sustainability team managing our ESG framework and performance metrics.

Key commitments include conducting climate change risk assessments, advocating for low-carbon energy solutions, evaluating biodiversity and rehabilitation risks and integrating energy and GHG metrics while sourcing energy from renewable sources across all operations and new developments.

In alignment with SDG 13, we acknowledge the necessity of climate action and the transition to a low-carbon economy. Since 2016, we have calculated our GHG inventory and complied with annual regulatory reporting requirements to the Department of Forestry, Fisheries and the Environment through SAGERS. Our carbon footprint results are also reported according to the GHG Protocol and the ISO 14064-1:2018 standard, which serve as benchmarks for corporate reporting.

Community members showcasing latest crop yield

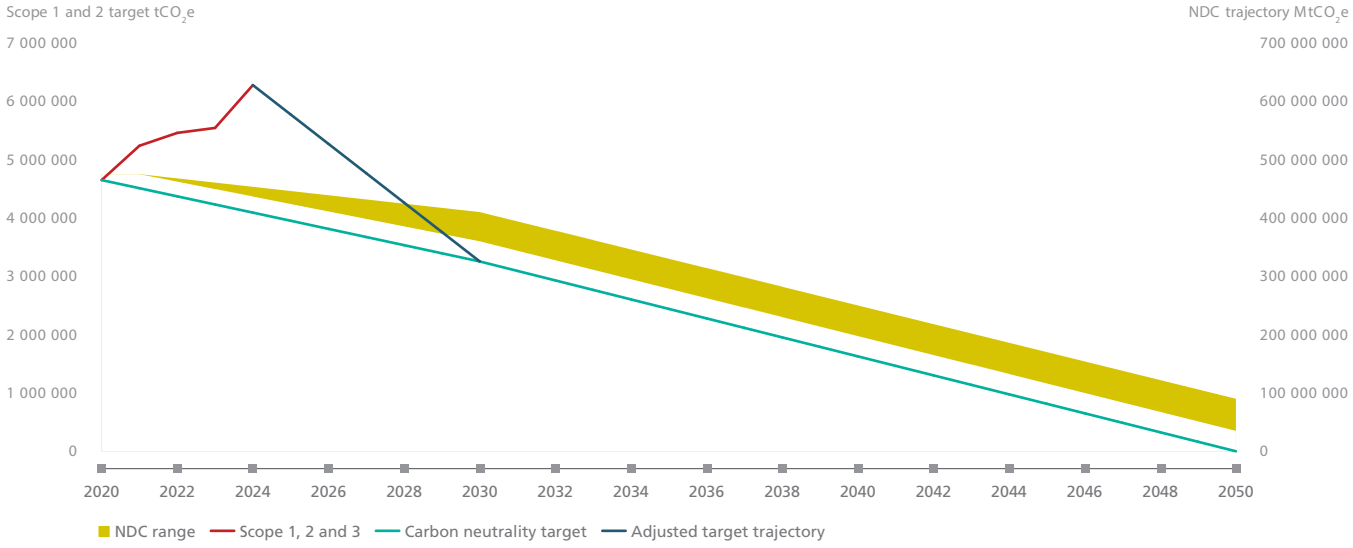
Climate change risks

Tharisa is committed to aligning with South Africa's climate change policies, which advocate for lower emissions and enhanced environmental stewardship. We ensure compliance with South Africa's National Climate Change Response Policy, the Climate Change Bill, the Nationally Determined Contribution (NDC) and the Integrated Resource Plan.

South Africa's climate change framework is anchored by the National Climate Change Response Policy, which governs the NDC.

The country's first NDC, published in 2015 and updated in September 2021, sets more ambitious emission reduction targets. The updated NDC aims for a "peak, plateau, and decline" trajectory, with GHG mitigation targets of 398 – 510 million tCO_2e by 2025 and 350 to 420 million tCO_2e by 2030, along with a goal of net-zero emissions by 2050. This reflects South Africa's commitment to addressing climate change and transitioning to a lower-carbon economy.

Tharisa's carbon-neutral emission trajectory related to the South African NDC



South Africa's annual emissions from 2000 to 2020 with the upper and lower NDC targets for 2025 and 2030 in millions tCO_2e.

A climate change vulnerability assessment was conducted by Promethium Carbon in 2024 which projected risks up to 2050. The assessment focused on two main factors:
(a) Changes in rainfall patterns and intensity
(b) The unpredictability of tropical cyclones and storms, both of which present uncertainties in future projections

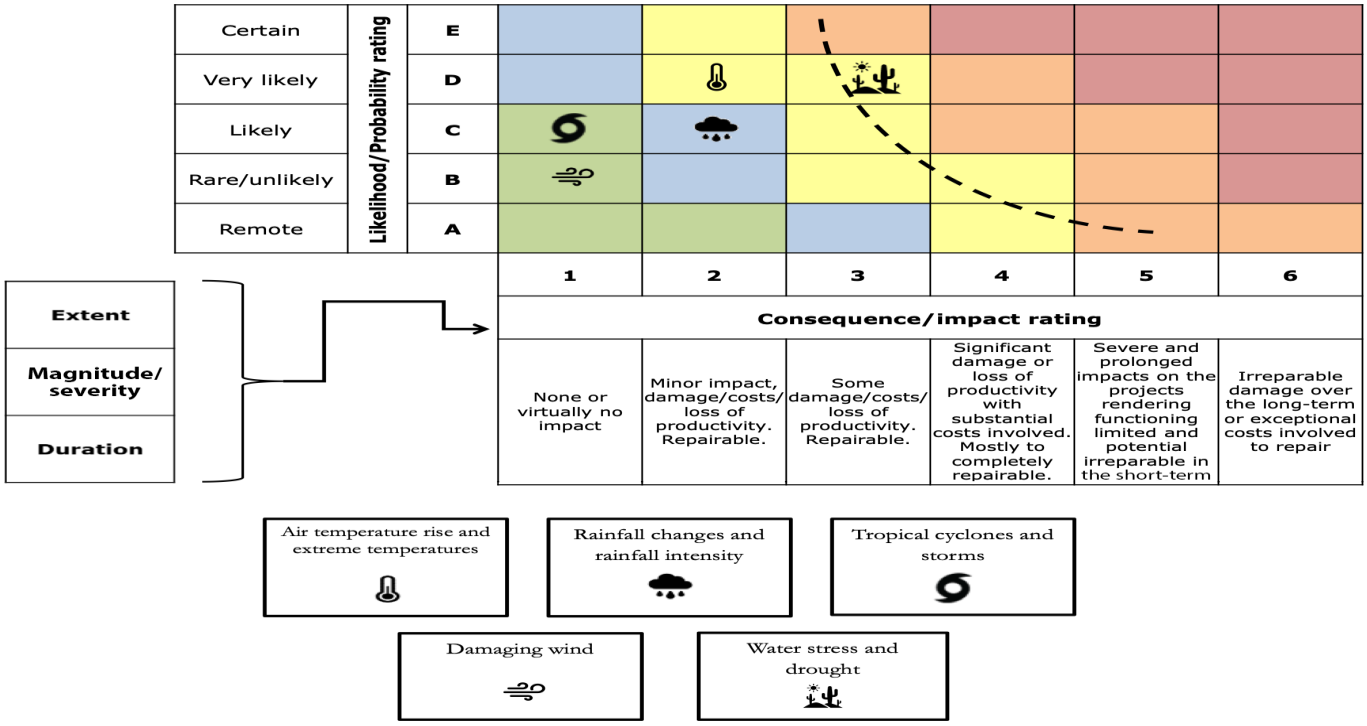
The overall outcomes of this climate change vulnerability assessment, along with their implications for operations, are detailed below:

Climate change outcome for Tharisa (2050 prediction)	Impacts on the operation
Mean annual temperatures will increase by approximately 1.5°C Number of hot days are expected to increase by 39 days per year	Increased evaporation results in less water being available for the operation of the mine. Increased heat exhaustion and possibly reduced working hours during peak daytime temperatures. Heat stress and discomfort could lead to unforeseen incidents that could cause damage to equipment/or human injury. This could lead to high mortality rates, heat-related illnesses, increased injuries, more absenteeism, slow work pace, loss of productive capacity and poor social wellbeing.
Rainfall is expected to decrease by 3 mm/year. Rainfall will occur in high-intensity events resulting in flooding. Droughts are expected to become a considerable risk.	Reduced water available for mining, impacting surface and groundwater levels and decreasing water abstraction. When rainfall does occur, flooding of mining areas (loss of production) and dirty water dam overflows (increased environmental incidents).

Climate change vulnerabilities

Vulnerability is the likelihood of being adversely affected by climate change, including its variability and extremes. Assessing project vulnerability involves evaluating potential climate impacts on development projects and identifying strategies to enhance resilience.

The below assessment matrix scores each climate impact based on its likelihood and consequences and is informed by expert opinions and historical data relevant to the project and region. Factors considered include climate events' extent, severity and duration, with projections extending to 2050.



Projected change by 2050 relative to baseline

While tropical cyclones are expected to increase in frequency in South Africa, the inland location of the project site is likely to minimise their impacts. In contrast, drought, water stress and rising temperatures – potentially more frequent hot days – are identified as the most significant risks. Water stress poses the highest threat due to the critical need for adequate water supply for operational continuity.

Mandela Day community clean-up campaign

Climate change impact	Current/near-historical	Shared Socioeconomic Pathways (SSP1[1])	SSP2[2]	SSP5[3]
Mean annual temperature	19.3±0.6°C; increasing trend	Increase of 0.6°C	Increase of 1.1°C	Increase of 1.5°C
Very hot (uncomfortable) days	9 days/year (mean)	Increase to 25 days/year (mean)	Increase to 29 days/year (mean)	Increase to 39 days/year (mean)
Mean annual precipitation	603 ±104 mm/year; slight increasing trend	Mean increase of 57 mm/year	Mean decrease of 7 mm/year	Mean decrease of 3 mm/year
Extreme rainfall days	**Mean of 5 days per annum**	**Increase of 2 days per annum**	**Increase of 1 day per annum**	**Increase of 1 day per annum**
Drought risk	Medium – high	Not available	Not available	High risk of increase in drought tendencies per decade compared to baseline
Flood risk	Medium	Not available	Not available	Medium – high
Damaging wind risk	Not available			
Wildfire likelihood	Likely	Not available	Not available	Increase to high wildfire risk

The following mitigation measures are currently being implemented and are proposed to be implemented by the mine to address climate change risks.

Measure	Description
Design process	Incorporate green building principles by sourcing sustainable materials with lower-carbon footprint during the design phase.
Energy efficiency	Implement energy efficiency measures to reduce electricity consumption and reliance on non-renewable energy. Install LED lighting, motion sensors, and energy-efficient heating, ventilation and air conditioning (HVAC) systems. Consider investing in renewable energy sources like solar PV to offset electricity consumption. Tharisa will begin receiving renewable energy as part of a power purchase agreement from a 40 MW solar PV facility in 2025, which will contribute to Tharisa's planned reduction of 30% of carbon emissions by 2030.
Waste management	Implement a waste management plan to reduce waste generation through reusing and recycling materials. Tharisa prioritises minimising waste generation by implementing the waste management hierarchy. Disposal is only considered as a last resort after all other management options are exhausted. This process involves generating, segregating and storing waste in colour-coded containers to facilitate recycling and reuse, thus reducing the final amount of waste disposed of. This approach should be applied to the expansion project.
Habitat restoration and reforestation to offset any residual carbon stock impacts are to be implemented during the closure and rehabilitation phases of the open-pit mining section, and in future, the entire mining site	Restore degraded habitats within or near the project site to re-establish native vegetation and ecosystems. Plant trees and other plants to rebuild carbon stocks over time where careful selection of species and restoration techniques are important for success. Partner with local communities and organisations to scale up reforestation efforts. These efforts, such as planting on previously forested lands, could help sequester additional carbon from the atmosphere with reforestation projects targeted in areas with suitable conditions and land availability. Implement sustainable land management practices like agroforestry, improved grazing management, or reduced-impact logging, which could help maintain and enhance carbon stocks on lands surrounding the project site. By pursuing a portfolio of mitigation and restoration actions, Tharisa could help minimise the net effects on the carbon balance and potentially achieve a net positive impact over time. Careful planning, stakeholder engagement and long-term monitoring will be critical for the success of this effort.
Annual GHG inventory	Monitor all GHG emissions, including direct and indirect sources (including infrastructure, fuel-related and other material sources), through an annual inventory. The scope of the inventory should exceed the legislative requirements of only monitoring direct emissions from stationary sources as most emissions from the Tharisa Underground Expansion Project will be indirect emissions from imported energy. Update historical GHG reporting to include emissions from the expansion project.

[1] Taking the Green Road (Low challenges to mitigation and adaptation)
[2] Middle of the Road (Medium challenges to mitigation and adaptation) or status quo
[3] Fossil-fuelled Development – Taking the Highway (High challenges to mitigation, low challenges to adaptation)

Building a low-carbon economy

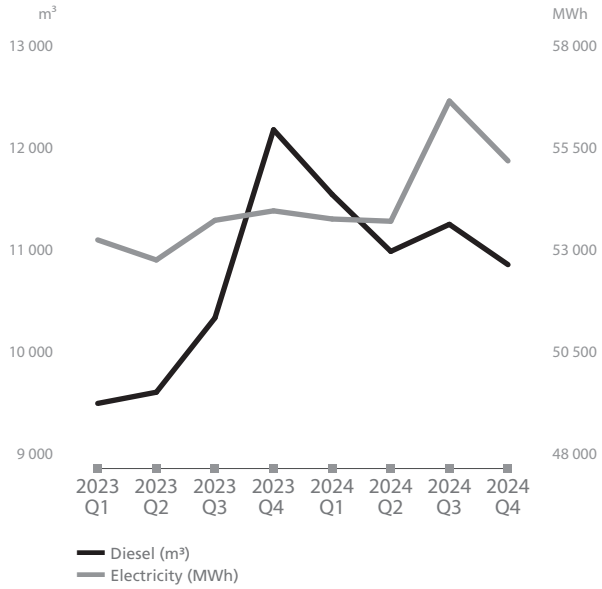
We recognise our responsibility to transition to a low-carbon economy and reduce emissions through our low-carbon transition strategy. This enhances energy security and also positions us in the emerging energy value chain. Our commitment to integrating sustainability into business decisions is fundamental, with a firm focus on measuring environmental data to minimise our carbon footprint and overall impact.

Our roadmap outlines our path to achieving our 2030 decarbonisation goals through renewable energy and innovation. This demonstrates our dedication to sustainability and proactive climate change management approach.

Energy consumption and GHG emissions

The efficient use of electricity is essential for the successful operation of Tharisa's mine and processing plants. Electricity powers the processing plants, while diesel fuels all mining machinery. The primary objective is to reduce reliance on non-renewable resources and shift our focus to renewable energy generation.

Diesel and electricity consumption



The above graph illustrates the total diesel and electricity consumption factored into the GHG emission calculations. Overall, diesel and electricity consumption remained steady in 2023 and 2024.

Our current carbon footprint

Direct GHG emissions (Scope 1) refer to emissions generated by sources owned and controlled by Tharisa with diesel totalling 133 381 tCO_2e of these emissions in 2024 (2023: 123 555 tCO_2e).

Energy indirect emissions (Scope 2) stem from electricity purchased from the national grid, totalling 221 187.081 tCO_2e (2023: 221 926 tCO_2e).

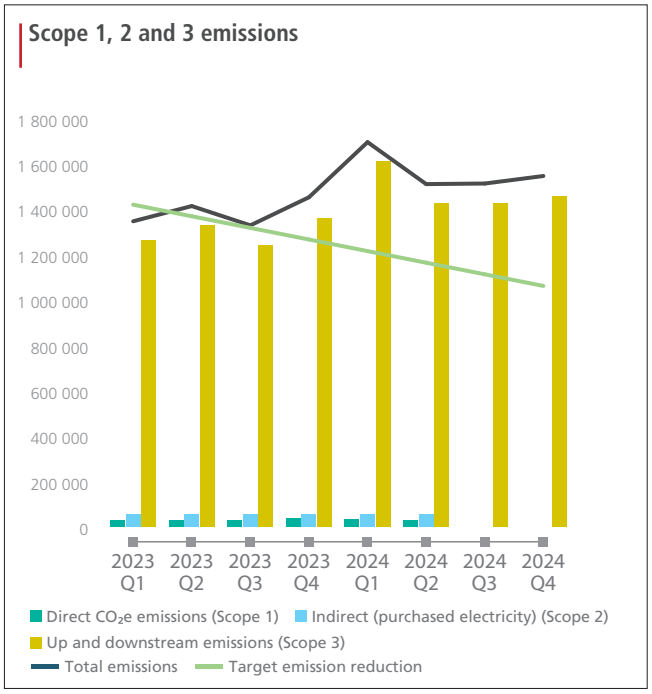
Other indirect GHG emissions (Scope 3) arise from activities activated by the mine but controlled by subcontractors or value-adding chain companies. These are further divided into upstream – which focuses on acquired goods and services – and downstream, which relates to sold goods and services.

Indicators	2024	2023
Scope 1 CO_2e emissions (direct – fossil fuels/non-renewable) (t000)	**133 381 tCO_2e** **44 519.36 m^3**	123 555 tCO_2e 44 519.36 m^3
Scope 2 CO_2e emissions (indirect – electricity purchased) (t000)	**221 187.081 tCO_2e** **218 996.81 MWh**	221 926 tCO_2e 218 996.81 MWh
Scope 3 CO_2e emissions (indirect, not Scope 1 or 2) (t000)	**5 922 062 tCO_2e**	5 197 034 tCO_2e

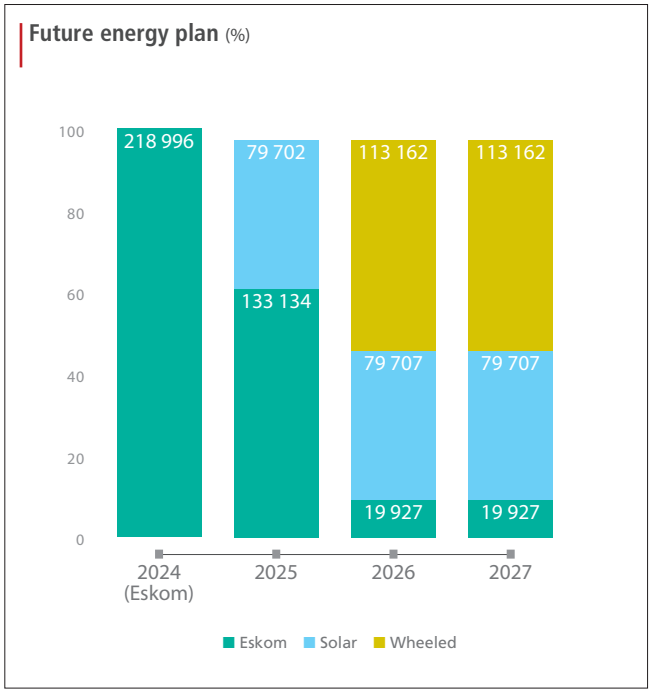
The total emission trend for 2023 and 2024 shows that Scope 3 emissions account for most of Tharisa's total emissions, with only minimal changes in Scope 1 and 2 observed. Scope 3 emissions primarily arise from the transportation distance of the product from the mine to customers and its final destination, including contractors' diesel consumption and blasting agents.

To address this, we have set an emission reduction target to decrease carbon emissions. This target is based on several strategic projects designed to reduce the Company's carbon footprint. The carbon reduction strategies focus on decreasing reliance on Eskom electricity, which is expected to lower overall emissions across operations.

Scope 1, 2 and 3 emissions



Future energy plan (%)



Scope 1, 2 and 3 emissions

2024 quarterly reduction (tCO_2e)

	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4
Total emissions generated	**1 695 587**	**1 510 670**	**1 513 128**	**1 546 338**	1 346 769.829	1 413 822	1 328 776	1 452 604
Target emission reduction	**1 215 297**	**1 164 132**	**1 112 967**	**1 061 802**	1 419 956.21	1 368 791	1 317 626	1 266 461
Difference	**480 290.5**	**346 538.4**	**400 161.7**	**484 536.2**	(73 186.4)	45 030.2	11 149.7	186 142.7

Timeline

Year	Vision 2025
• Data management systems for sustainability disclosure reporting	• Group regulatory compliance
• Internal and external regulatory audits for all operations	• Diversified energy mix
• Support services for expansion projects	• Carbon reduction programmes
• Operational water stewardship strategies	• Sustainability integration
• Enhanced procurement opportunities for host communities	• Shared value and growth
• Socioeconomic development initiatives in collaboration with community engagement and transformation teams	
• Air quality management strategy	

We are committed to key actions to drive meaningful change across our operations and the broader industry to support decarbonisation and our long-term goals. Collaborating with stakeholders, including industry peers, government bodies and community organisations, is central to this. This is to leverage shared knowledge and resources for greater climate action impact. We will seek financial and technical support through partnerships that align with our sustainability objectives and enable the adoption of innovative decarbonisation technologies. Engaging with suppliers is essential for promoting low-carbon solutions and staying informed about market advancements.

We aim to create a unified approach to sustainability by collaborating with industry coalitions and maintaining open communication with our partners. Ultimately, our efforts will establish a robust decarbonisation framework that meets our operational objectives and fosters a more sustainable future for all stakeholders to address climate challenges and drive transformative change in our industry.

GHG future prediction

The table below shows the projected increase in GHG emissions expected from new proposed projects at Tharisa.

Operations phase

Emission category	Activity	Per annum (tCO_2e)	Lifetime (tCO_2e)
Category 1: Direct GHG emissions and removals Category 2: Indirect GHG emissions from imported energy	Fuel combustion in owned machinery and vehicles and purchased electricity (mining and concentrating processes)	624 906	62 490 603
Total operations emissions		**624 906**	**62 490 603**

Carbon reduction strategies

Tharisa is dedicated to aligning with the SDGs by targeting a 30% reduction in our carbon footprint by 2030 and striving for carbon neutrality by 2050. A critical component of this commitment involves transitioning to alternative green energy sources.

Our future energy plan outlines a progressive approach, starting with 100% Eskom power in 2024, transitioning to 63% Eskom and 37% solar in 2025, and ultimately reaching a mix of 9% Eskom, 37% solar and 53% wheeled energy by 2026.

To effectively support our decarbonisation efforts, we will collaborate with stakeholders, secure financial and technical resources, engage suppliers for innovative decarbonisation technologies, define our role in achieving carbon neutrality and align with partners on shared commitments that resonate with our ambitious sustainability goals.

Summary of renewable energy initiatives at Tharisa:

Solar power plant	Tharisa is developing the Buffelspoort solar PV energy facility, which will have a contracted capacity of up to 40 MWp. This project aims to supply power to the Tharisa Mine through a newly proposed 88 kV overhead power line, approximately 2.5 km long, connecting the onsite substation to a point north of the N4 Bakwena Highway. By diversifying the energy mix, this initiative seeks to reduce Tharisa's reliance on Eskom and support sustainability targets to lower our carbon footprint. The project has obtained the necessary environmental permits, including Environmental Authorisation (EA) and water-use licence (WUL), with construction set to begin in early 2025.
Wind and solar wheeling	Tharisa has signed a power purchase agreement to procure wheeled renewable energy, which will fulfil up to 44% of the mine's electricity demand from wind and solar farms in the Western and Northern Cape. The wheeled energy is expected to be operational in 2026, complementing the 40 MW solar power plant and helping to achieve a 30% reduction in our carbon footprint by 2030.
Redox One	The Redox One project focuses on harnessing renewable energy for battery storage. This initiative uses chrome and iron resources from the Tharisa Mine as an electrolyte to store excess solar and wind energy generated during peak times. The batteries are designed for longevity and can be reused or resold, thereby supporting the renewable energy sector.
Biomass fluidised bed reactor (experimental)	This experimental project explores using various biofuels in a reactor for energy generation, using chrome as a heat sink to retain energy from biomass combustion. Potential biomass sources include invasive species like water hyacinth, and chicken manure and wood chips.
Concentrated Solar Power (experimental)	This project aims to use concentrated solar energy to heat chromite sand, which will serve as an energy source for various applications under investigation.
Hydrogen Capture Project (experimental)	This initiative seeks to capture and store hydrogen generated during the smelting process for use in Tharisa's pyrometallurgical operations or as a marketable by-product.

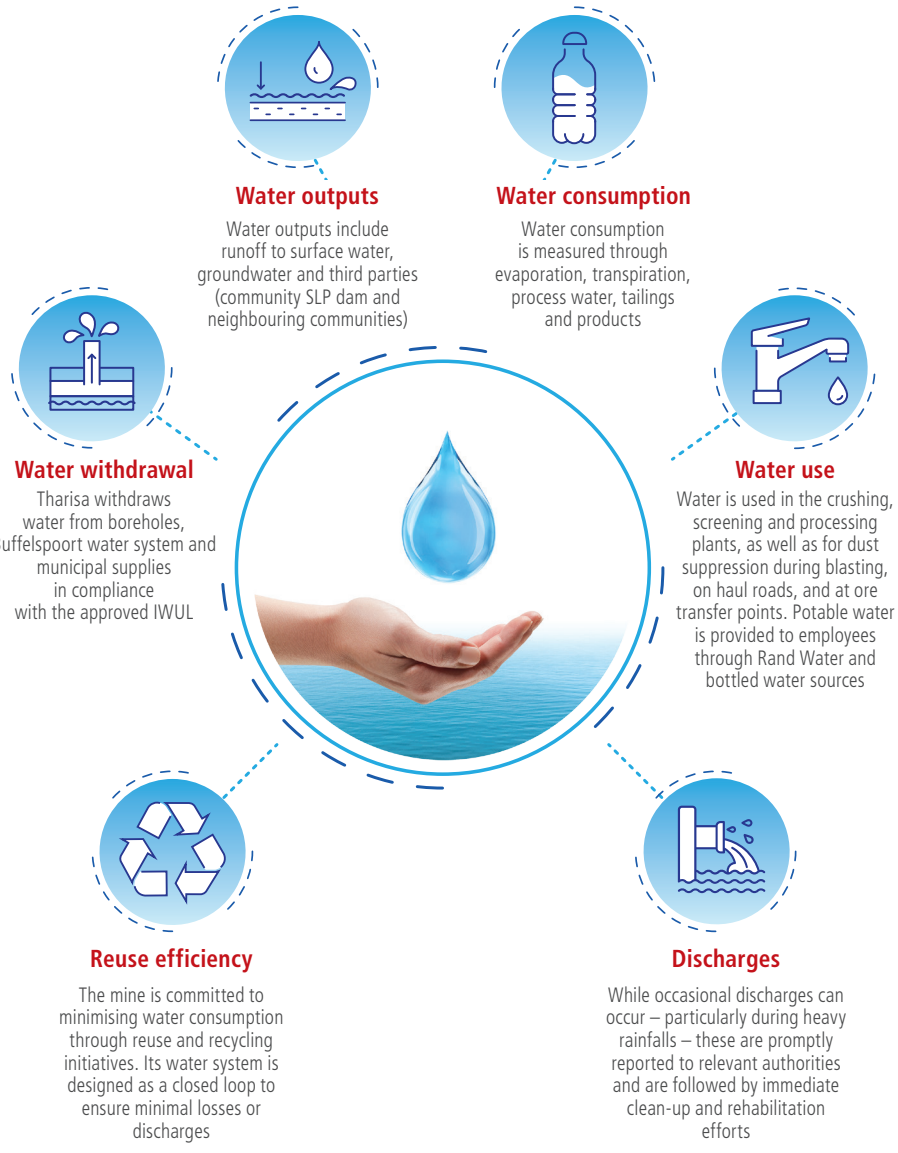
Water management

Water is a strategic resource that is closely monitored and managed, mainly because our operations are situated in a water-scarce region of the country. Tharisa's critical water uses and guiding principles are illustrated in the figure below.

We are committed to responsible water stewardship and are guided by our comprehensive policy that establishes effective water management governance, practices and procedures. Our dedication extends to enhancing resilience against climate change and understanding the water needs of the communities we serve. This includes actively supporting public water infrastructure maintenance and participating in local catchment forums where we address water management challenges collaboratively with various stakeholders.

Since we operate in a water-scarce region, we closely monitor and preserve water usage, recognising its critical importance to our operations and the surrounding environment. The water used by the mine is sourced primarily from boreholes (52%), with additional contributions from the Buffelspoort water supply system (0.3%), Rand Water/potable water (14.9%), purchased water bottles (5.8%) and water used for dust suppression (27%).

As part of Tharisa's commitment to water conservation, we constructed a reverse osmosis (RO) plant in 2022 to supply water to our mining-changing facilities to reduce our dependence on municipal water sources. This has helped us maintain a positive water balance, minimising the need to extract water from the Buffelspoort Dam. Installing flow meters, an ongoing project since 2022, also ensures accurate water usage and reuse tracking, to enhance our water management efforts. These measures support operational efficiency and the sustainable management of regional water resources to benefit local communities and the environment.

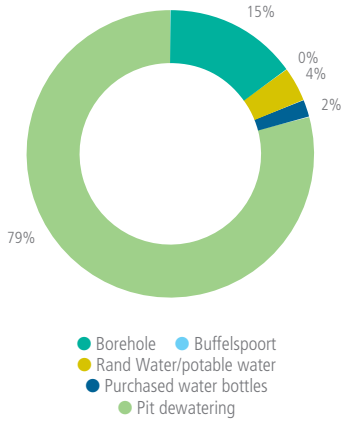


Water consumption

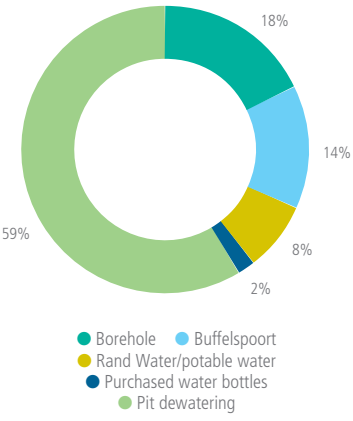
Water for our operations is sourced from various channels, including boreholes, pit dewatering, regional water supply utilities, purchased bottled water (5 ℓ for drinking) and the Buffelspoort Dam irrigation scheme.

In 2023, a total of 1 776 553 m³ of water was consumed, while in 2024, consumption increased to 2 751 505 m³, reflecting a 25% rise in water usage due to a change in water recording methods.

2023 Q1 to Q4 water usage (km³)



2024 Q1 to Q4 water usage (km³)



Mine water reticulation

A fully functional dynamic water balance model is being developed for our operations with the help of an external service provider. This model will simulate and predict water reticulation under various scenarios, offering valuable insights for improved water management and optimisation.

Given the inherent variability and uncertainties influencing the mine's water system – such as meteorological conditions, plant efficiencies, production processes and slurry densities – a dynamic stochastic model is essential. This model will quantify these uncertainties, forming the foundation for effective integrated water management.

It aims to provide a comprehensive view of the operation's water systems over time. It will be used to test various water conservation and water demand management (WCDM) strategies, assess their impacts on risks and support informed decision making.

The model will facilitate strategies to reduce water demand, waste and effluent disposal while enhancing water recovery and reuse rates by illustrating all water users, gains and losses within the system. This proactive approach will help mitigate risks associated with water security and promote sustainable resource use. The model will also be adaptable to future operational and environmental changes, ensuring its ongoing relevance.

Tharisa has also applied for an updated IWUL to include additional proposed water activities and amend existing authorised uses. The updated IWUL was granted by the Department of Water and Sanitation (DWS) in September 2024, superseding the licence granted in 2020. Tharisa remains committed to complying with its IWUL and associated limits to ensure proper water management across its operations.

Wastewater management

Effective wastewater management is crucial for our operations and prioritises protecting surface water quality and compliance with environmental regulations.

We utilise pollution control dams (PCDs) to manage potentially contaminated wastewater, ensuring it is contained and reused in our processes. A key aspect of our strategy involves separating dirty and clean water in accordance with GN704 regulations to prevent contamination and minimise environmental impact.

Our PCDs are vital for managing wastewater, ensuring it is contained through dedicated channels and pipelines. We maintain optimal stormwater management facilities for effective drainage and pollution control. Process effluent water is collected in lined TSFs to prevent seepage into groundwater and protect local ecosystems.

Wastewater generated from sanitation processes is also routed back to the sewage treatment plant where it undergoes chemical and biological treatment before being pumped to the process water dam for reuse. This closed-loop system conserves water resources and demonstrates our commitment to sustainability and responsible stewardship while ensuring compliance with all regulations and standards.

Water recycling

Water recycling is crucial to our operations and addresses the significant demands of our three processing plants. It also aligns with SDG 6, which emphasises clean water and sanitation. A key component of our recycling efforts is the pit dewatering process where water is pumped from the east, west and far west pits into the Hernic Quarry for reuse, creating a closed-loop system that maximises efficiency.

Our stormwater management system effectively separates clean and dirty water, ensuring compliance with GN704 regulations and protecting water resources. Return water from our TSF is vital as it is collected and redirected for reuse in our plants, minimising water loss and environmental discharge. The recent expansion of our wastewater treatment facility enhances our ability to treat and recycle wastewater from various operations. We also produce an annual salt and water balance report to guide our conservation and reuse strategies.

To encourage water conservation awareness, we implement educational initiatives for our employees and contractors which highlight the importance of responsible water use. Our water metering project ensures accurate monitoring of water inflows and outflows and reinforces our commitment to effective water stewardship.

Key initiatives include:

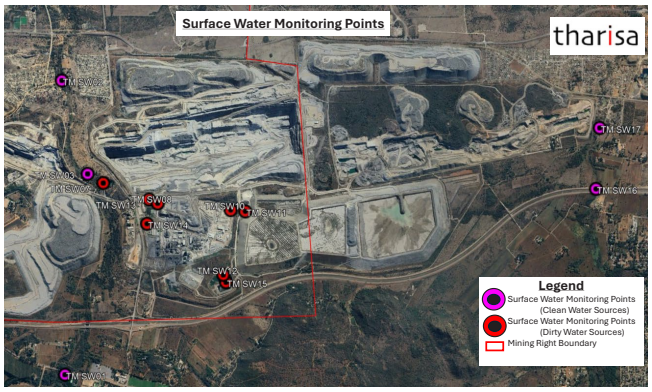
- Pumping water from the east, west and far west pits into the Hernic Quarry for reuse through the pit dewatering process.
- Separating clean and dirty water via our stormwater management system in compliance with GN704 regulations.
- Collecting return water from the TSF for reuse in our plants, ensuring it is routed through licensed PCDs.
- Maintaining a closed-circuit water management system to prevent loss or environmental discharge.
- Ongoing environmental awareness initiatives, including monthly discussions, reinforce the importance of water conservation among employees and contractors. Our water metering project, initiated in FY2022, focuses on regulatory compliance and accurate reporting of water usage and recycling volumes.

Ground and SW monitoring

We are committed to ensuring that our operations do not significantly impact local water quality. If impacts occur, we strive to understand the risks associated to nearby communities. SW monitoring locations for the mine are monitored monthly, while GW monitoring locations are assessed quarterly. The monitoring locations for SW and GW are shown in the below figures.

We closely monitor watercourses surrounding the mine and maintain dirty water storage facilities to effectively separate contaminated and clean water sources. This monitoring helps identify any seepage from the dams and determines if any exceedances in water quality are due to mining activities or external factors.

In September 2024, Tharisa was issued a new Integrated IWUL that enables the release of water from the Hernic Dam when excess water is received and no other reprocessing options are available. New boreholes have also been drilled in strategic locations north of the mine to enhance monitoring efforts as recommended by GW specialists.



Surface water monitoring locations

Groundwater monitoring locations

Waste management

Tharisa prioritises effective waste management by adhering to a hierarchy of controls that emphasises minimising waste generation as the primary objective.

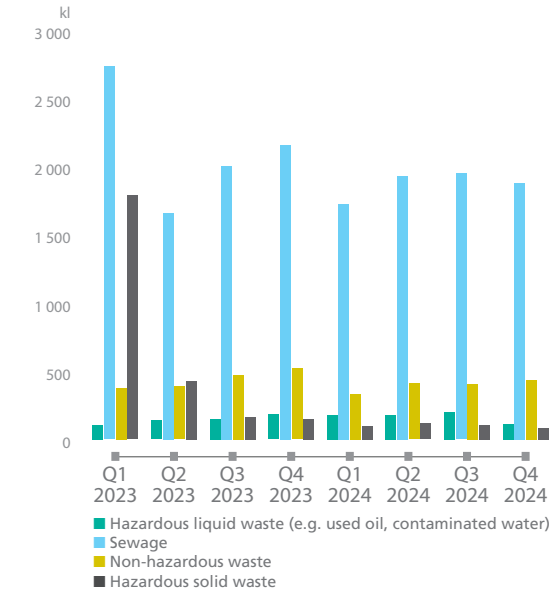
Waste disposal is considered as a last resort after exploring all other options. Our waste management procedures promote responsible waste generation and efficient handling, starting with source separation to facilitate recycling and reuse. A colour-coding system for waste containers aids in proper sorting, ensuring that recyclable materials do not mix with general waste and maintaining safe storage to reduce contamination risks.

By implementing these practices, we significantly decrease the volume of waste sent to disposal facilities to support our sustainability goals. Continuous improvement is central to our strategy and involves regular employee training on waste management protocols and collaboration with external partners for innovative recycling solutions. Through these efforts, we are committed to minimising our environmental footprint, conserving resources, fostering a culture of sustainability, and setting a leading example in responsible waste management in the mining industry.

	2024	2023
Total domestic waste generated	**776.63 tonnes**	674.41 tonnes
Total industrial waste generated	**785.59 tonnes**	1 094.12 tonnes
Total non-hazardous waste generated	**1 562.22 tonnes domestic and industrial**	1 768.53 tonnes domestic and industrial
Total hazardous waste generated (solid)	**403.3 tonnes solid**	2 488.8 tonnes solid
Total hazardous waste generated (liquid)	**8 170 Kℓ**	9 156 Kℓ
Production waste generated	**15.69 Mm³ waste rock**	14.50 Mm³ waste rock
Tailings waste generated	**1.17 Mm³ tailings volume**	1.15 Mm³ tailings volume

Non-mineralised waste (general and hazardous) management
The table below provides the types of waste generated. The most significant waste stream generated at the mine is sewage.

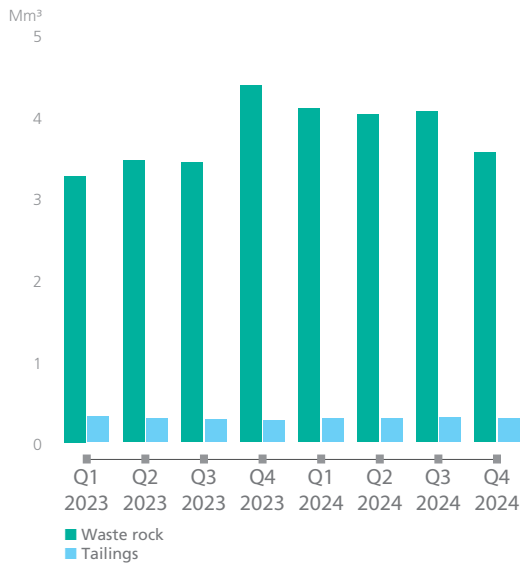
Waste type generated (kl)



Waste types generated at Tharisa

Mineralised waste management
Production waste generated at the mine includes tailings and waste rock currently stored on the various waste management facilities. Refer to the following graph which the waste and tailings generated by the mine.

Production waste generated (Mm³)



Production waste generated at Tharisa

Tharisa has implemented waste management initiatives that resulted in a 24% reduction in overall waste generation, with 56% of non-hazardous waste recycled in 2024. Recycled non-hazardous waste included scrap metal (59%), rubber (24%), HDPE piping (12%), timber/wood (4%) and conveyor belts (1%), while paper and cardboard recycling was minimal. Overall, 38% of domestic waste went to landfills, and 62% of industrial waste was reused or recycled.

A key focus of our strategy is the careful handling of hazardous waste to prevent environmental impacts. We maintain robust controls for hazardous waste storage areas, including WRDs and TSFs, featuring bund walls, effective liners and collection systems like sumps and silt traps.

The total hazardous waste containers generated for FY2024 is provided below.

	FY2024 number of containers
Empty drums	**1 707**
Empty IBC/flowbins	**590**
Buckets (20/25 ℓ)	**2 465**
Paint tins	**0**
Batteries	**0**
Fluorescent tubes (boxes)	**9**

Tailing storage facilities management

Once ROM material is extracted from opencast pits, it is transported to the processing plant for fine grinding and treatment with water and chemicals to separate valuable minerals from waste. The resulting tailings, or slurry, are then pumped to TSFs for permanent disposal. Effective TSF management is essential to prevent groundwater pollution and mitigate risks associated with catastrophic failures, as evidenced by recent global incidents. Tharisa is committed to adhering to national and international best practices for TSF management throughout the mining lifecycle.

Tharisa operates two mine residue disposal facilities (MRDFs) MRDF1, which includes TSF 1 and its expansion, and MRDF2, comprising TSF 2, Phase 1 and Phase 2. Tailings are deposited into these facilities through open-ended pipes. An independent engineer conducts regular seepage and slope stability analyses, with mandatory reports submitted to the Department of Mineral Resources and Energy (DMRE) in compliance with MHSA regulations. In September 2024, an updated IWUL was issued for the construction and operation of TSF 3, which enhances tailings deposition capacity.

To align with the Global Industry Standard on Tailings Management (GISTM), Tharisa is focused on improving Factors of Safety (FoS) according to the 2022 Tailings Dam Safety guidelines from the International Commission on Large Dams (ICOLD Bulletin 194). These guidelines emphasise assessing undrained conditions, particularly concerning the black clay beneath the TSFs, which poses stability risks. GISTM also requires compliance with FoS for 10 000-year seismic events and effective stormwater management. In response, Tharisa reinforces waste rock buttresses and extends embankment keys by removing the underlying clays. Through these comprehensive strategies, Tharisa is dedicated to ensuring the safe and responsible operation of its TSFs while protecting the environment and surrounding communities.

Additional measures to prevent environmental pollution include:

Seepage prevention	Intercepting solution trenches up to 1.5 metres deep to collect seepage.
Stormwater management	Maintaining diversion trenches for effective stormwater redirection.
Monitoring	Regular water quality and GW assessments via surrounding boreholes through an independent service provider.
Water recirculation	Storing stormwater in tailings dams for reuse as makeup water in the processing plant.
Dust control	Promoting vegetation growth on tailings beaches to reduce dust generation.

World-class processing facilities minimising the need for tailings deposition

EPOCH

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THARISA PLC
TAILINGS MANAGEMENT STRATEGY AND PERFORMANCE

1. Introduction

Tharisa Minerals Mine (*Tharisa*), located in the Marikana district of South Africa's North-West Province and has been operational since 2009. The mine currently incorporates four Mine Residue Disposal Facilities (MRDFs). Three of these facilities are dormant, and one is actively receiving tailings. A fifth MRDF is currently under construction and expected to be commissioned by Q3-2027.

Karo Platinum mine (*Karo*) is situated in the Midlands Province of Zimbabwe. The mine is in the early phases of development, with the construction of its first MRDF scheduled to begin in the second quarter of 2025 with mining commencing in 2026.

Epoch Resources (Pty) Ltd (*Epoch*) has been responsible for the design and construction supervision of all Tharisa's MRDFs and has also completed the design of Karo's MRDF. Epoch have also been appointed as the Engineer of Record (*EOR*) for both mines.

2. Global Industry Standard on Tailings Management

The International Council on Mining and Metals (ICMM) through the Global Industry Standard on Tailings Management (GISTM) introduced a guideline for the design, operation, and closure of Tailings Storage Facilities (TSFs), aimed at ensuring the responsible management of these facilities throughout their lifecycle.

The GISTM, launched in 2020, has a primary goal of achieving "*zero harm to people and the environment with a zero tolerance for human fatality*".

The Global Industry Standard on Tailings Management (GISTM) was developed by an independent panel comprising members of the International Council on Mining and Metals (ICMM), the United Nations Environment Programme (UNEP), and the United Nations-supported Principles for Responsible Investment (PRI). The objective was to strengthen existing industry practices by integrating social, environmental, local economic, and technological considerations, thereby establishing a global benchmark for tailings management. The standard offers a comprehensive framework for the safe management of tailings facilities, structured around six Topic Areas (illustrated in Figure 1) encompassing 15 Principles and 77 specific conformance requirements.

Figure 1: GISTM Framework (Source: *GlobalTailingsReview.org*)

Tharisa PLC is dedicated to attaining and sustaining compliance with the Global Industry Standard on Tailings Management. This commitment entails continuous review and enhancement of policies and procedures, along with ongoing monitoring and improvement of the Mine Residue Disposal Facilities (MRDFs) throughout their operational lifecycles.

2.1 Tharisa Minerals Mine

Epoch Resources (Pty) Ltd (Epoch) conducted a comprehensive evaluation of Tharisa's tailings management protocols, with a focus on the design, operation, closure, and post-closure strategies for the Mine Residue Disposal Facilities. The assessment was benchmarked against the 77 conformance protocols outlined in the Global Industry Standard on Tailings Management, and identified deficiencies were addressed where possible.

The evaluation determined that Tharisa's management and operational protocols fully satisfy the requirements of Topic Area 1 – Affected Communities. Furthermore, Tharisa PLC has made significant progress towards achieving full compliance with Topics 4 and 6 through the ongoing review and enhancement of policies and procedures.

The design requirements outlined by the GISTM are primarily driven by the hazard classification of MRDFs, which is determined through breach analyses. To assess the extent of potential tailings breaches, flow assessments based on credible failure modes are necessary. In this context, an independent expert conducted a Failure Modes and Effects Analysis (FMEA) for the four existing facilities, which identified no credible failure modes that could result in a catastrophic flow slide of tailings.

An integrated knowledge base register has been established for Tharisa's MRDFs, designed to be regularly updated as new data and information become available. These efforts have largely achieved compliance with Topic Area 2 – Integrated Knowledge Base, apart from addressing climate change, which requires further studies.

Topic Area 3 – Design, Construction, Operation, and Monitoring emphasizes minimizing the risks posed by Mine Residue Disposal Facilities to the surrounding environment. The Tharisa and Karo MRDFs were designed as full containment facilities, employing the downstream construction method with robust rockfill embankments and foundation keys extending to competent material. This design incorporates waste rock from open-pit mining and tailings from ore processing, into sustainable landforms, significantly improving long-term stability, maintenance, and rehabilitation. The use of competent waste rock in containment walls and keys reduces the risk of liquefaction from static and transient loads, thereby ensuring long-term facility stability. This approach marks a shift away from the upstream self-raise method, which relies heavily on the strength of consolidated tailings and has been associated with recent catastrophic failures. As a result, the industry is progressively abandoning the upstream self-raising method, which is now prohibited in several countries, including Chile, Brazil, and Peru.

Stability assessments were carried out in accordance with the technical standards established by the International Commission on Large Dams (ICOLD). Comprehensive studies determined seismic and flood loading conditions with a recurrence interval of 1 in 10,000 years, corresponding with the Extreme consequence classification design requirements. All facilities were evaluated against these criteria and confirmed to be GISTM-compliant throughout their life cycle. Additionally, insights and recommendations from the Independent Senior Technical Reviewer have been integrated into the future monitoring protocols for the MRDFs, enhancing Tharisa's ongoing monitoring efforts and contributing to the expansion of the GISTM knowledge base.

A Trigger Action Response Plan (TARP) has been established to serve as an early warning system, enabling prompt corrective measures if the facilities deviate from their intended design performance.

Emergency Response and Long-Term Recovery (Topic Area 5) is being addressed through the ongoing refinement of the Emergency Preparedness and Response Plan (EPRP). The EPRP is informed by the studies conducted to date and will be continuously updated as new information becomes available. Breach analyses have been performed to evaluate potential impacts from the tailings facilities, providing a foundation for Tharisa's EPRP. This approach ensures the establishment of effective response measures and clear communication protocols to protect surrounding communities and the environment.

The GISTM conformance evaluation highlighted that Tharisa made substantial progress in aligning with these standards, achieving full compliance with 59 protocols and actively working towards compliance for another 15. Tharisa's MRDFs demonstrate a high level of structural integrity, meeting, and in some cases exceeding, regulatory requirements. This underscores Tharisa PLC's ongoing commitment to safety, compliance, and continuous improvement.

2.2 Karo Platinum Mine

The design of the Karo Mine Residue Disposal Facility was carried out with a strong emphasis on adherence to GISTM principles, particularly in Topic Areas 2, 4, and 6. A Failure Modes and Effects Analysis confirmed that, based on the current design, no credible failure modes exist that could lead to a catastrophic release of contaminants or a flow-slide failure. Stability assessments, conducted in accordance with ICOLD standards, confirmed that the MRDF can withstand seismic and storm loads exceeding the Extreme consequence classification design criteria. An independent review of the final design validated its alignment with GISTM technical design principles. To support the development of the Emergency Preparedness and Response Plan, a high-level dam breach analysis was conducted. The ongoing development of the mine's tailings management structure and operational procedures, leveraging expertise from Tharisa, is creating a pathway to achieving GISTM compliance.

3. South African legislative requirements

The Tharisa Mine Residue Disposal Facilities are licensed under South African legislation, adhering to stringent standards such as SANS 10286, the Mine Health and Safety Act (MHSA), the National Environmental Management Act (NEMA), and the National Environmental Management: Waste Act (NEMWA). These regulations ensure rigorous controls to safeguard affected communities, protect the environment, promote water conservation, and ensure sustainable waste management. The design of Tharisa's fifth MRDF has obtained all necessary licenses from the Department of Water and Sanitation (DWS) and awaits the final Environmental Authorization from the Department of Mineral Resources and Energy (DMRE). Annual reviews by the Engineer of Record (EOR) are submitted to the DMRE to maintain compliance and uphold responsible tailings management practices.

Sent electronically.

Project Manager/Director

Andreas C Savvas EUR ING
BSc Eng (Civil), MSc Eng (Civil)
MSAICE, M.ASCE, MIMMM, MSAIMM

Reviewer/Director

GJ Wiid PrEng, C.Eng
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Date: 2024.11.11 16:02:58 +02'00'

Guy J Wiid PrEng
BSc Eng (Civil), MSc Eng (Civil)
M SAICE, M.ASCE, MSAIMM

Financial provision

Tharisa recognises that effective land management is vital for environmental sustainability and the social and economic wellbeing of the communities surrounding the mine.

Tharisa has been granted a Mining Right and EA, enabling the Company to extract PGMs and chrome from an approved mining reserve. With this comes a profound responsibility to ensure that, upon resource extraction, the land is rehabilitated to preserve its usability for future generations.

Tharisa engages in continuous and, where applicable, concurrent rehabilitation efforts to fulfil this commitment. This means that during ongoing mining operations, we implement measures to rehabilitate disturbed land to minimise the environmental footprint of our activities. Our approach to rehabilitation is not merely a post-mining obligation, it reflects our dedication to fostering a sustainable future for the region and its inhabitants.

As of 30 September 2024, the financial closure liability for the Tharisa Mine stands at ZAR409 700 490 (2023: ZAR376 265 431) including value added tax (VAT). This amount is broken down into two key areas: ZAR297 677 921 allocated for the east mine area and ZAR112 022 569 designated for the west mine area. These figures represent the estimated costs associated with rehabilitating the mine when operations cease.

The provision for this closure liability is calculated independently and annually. This rigorous financial assessment ensures that sufficient funds are allocated for rehabilitation efforts allowing Tharisa to meet our environmental responsibilities. By securing these funds ahead of time, we aim to guarantee that rehabilitation can be executed effectively and comprehensively to restore the landscape and promote biodiversity in the region.

Tharisa demonstrates its dedication to sustainable mining practices that balance resource extraction with environmental stewardship and community wellbeing through these commitments and proactive measures.

Rehabilitation

In long-term mining operations, effective management of infrastructure such as TSFs is vital for environmental sustainability and landscape integration. Tharisa employs a strategic approach to promote ecological recovery when these facilities become dormant. A key measure is topsoiling the TSF sidewalls by adding nutrient-rich topsoil, which supports vegetation growth, stabilises soil, reduces erosion and enhances biodiversity. For instance, the northern sidewall of TSF 1 Phase 1 was topsoiled between 2014 and 2015, resulting in successful natural vegetation regrowth, while TSF 2 Phase 1 was topsoiled from 2021 to 2022, with ongoing monitoring to support developing vegetation.

In areas where natural vegetation is not established, Tharisa is prepared to implement additional measures from the mine's EMPr, such as re-seeding with indigenous species and enhancing soil fertility. Through these rehabilitation efforts, Tharisa aims to minimise the environmental impact of mining while contributing positively to the surrounding ecosystem. Tharisa is committed to balancing mining operations with ecological preservation by cultivating natural vegetation on dormant infrastructure, ensuring the land can support diverse life forms for future generations.

Under an unscheduled closure scenario, the DMRE Master Rates were utilised as the relevant guideline documents outlined. The estimated financial closure liability cost is ZAR409 700 490 (including VAT), reflecting an increase of ZAR33 435 059 (8.9%) from ZAR376 265 431 in 2023, due to new structures, the cleared footprint of TSF 3, and inflation adjustments based on the Consumer Price Index from Statistics South Africa.

2024 vs 2023 financial closure liability cost

	Summary			
Mine	**2024 ZAR**	2023 ZAR	Difference ZAR	
West Mine	**112 022 569**	79 143 291	32 879 278	41.5%
East Mine	**297 677 921**	297 122 140	555 781	0.2%
Increase				
Tharisa Mine	**409 700 490**	376 265 431	33 435 059	8.9%

Air quality

Earth's atmosphere, which is essential for life by absorbing ultraviolet (UV) radiation, warming the planet and regulating temperatures, faces growing threats from human-induced pollutants. Tharisa is committed to responsible emission management to protect environmental health and neighbouring communities. Our comprehensive air quality strategy starts with identifying emission sources, enabling tailored action plans that include engineering controls, cleaner technologies and regular air quality monitoring to ensure regulatory compliance.

Transparency is critical, and Tharisa actively engages with local communities, sharing air quality results to build trust. The air quality management plan is routinely updated to incorporate new technologies and best practices, while employees receive ongoing training to support pollution prevention.

Through these measures, Tharisa aims to minimise its environmental footprint, enhance community wellbeing, and contribute to a sustainable future.

Air quality monitoring

Tharisa's air quality monitoring programme is crucial for assessing impacts and refining control measures. Monthly dust fallout is tracked across 23 strategically placed dustfall units – 17 in residential areas and six in non-residential zones – covering the primary dust-generating sources such as in-pit operations, unpaved roads and bulldozing.

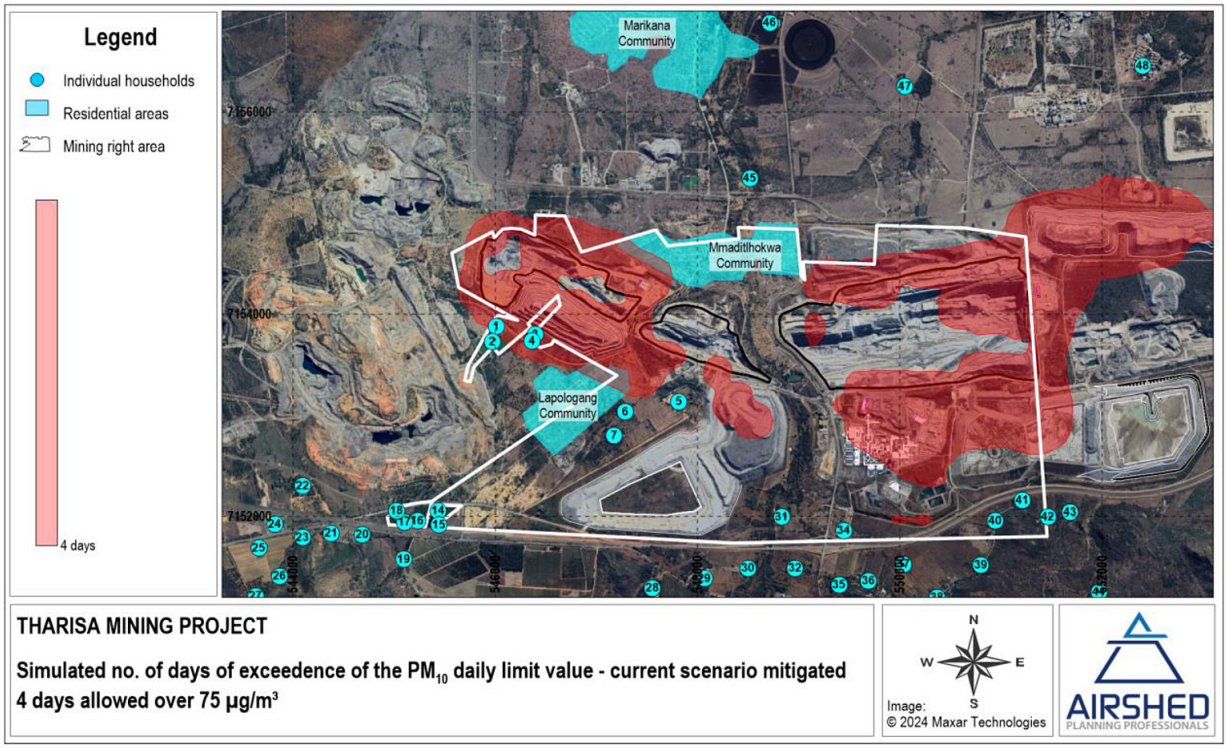
This monitoring network ensures compliance with National Ambient Air Quality Standards (NAAQS) and dust fallout guidelines, enabling continuous improvement in air quality control through regular assessment of dust deposition levels.

Tharisa Mine dustfall and ambient monitoring locations

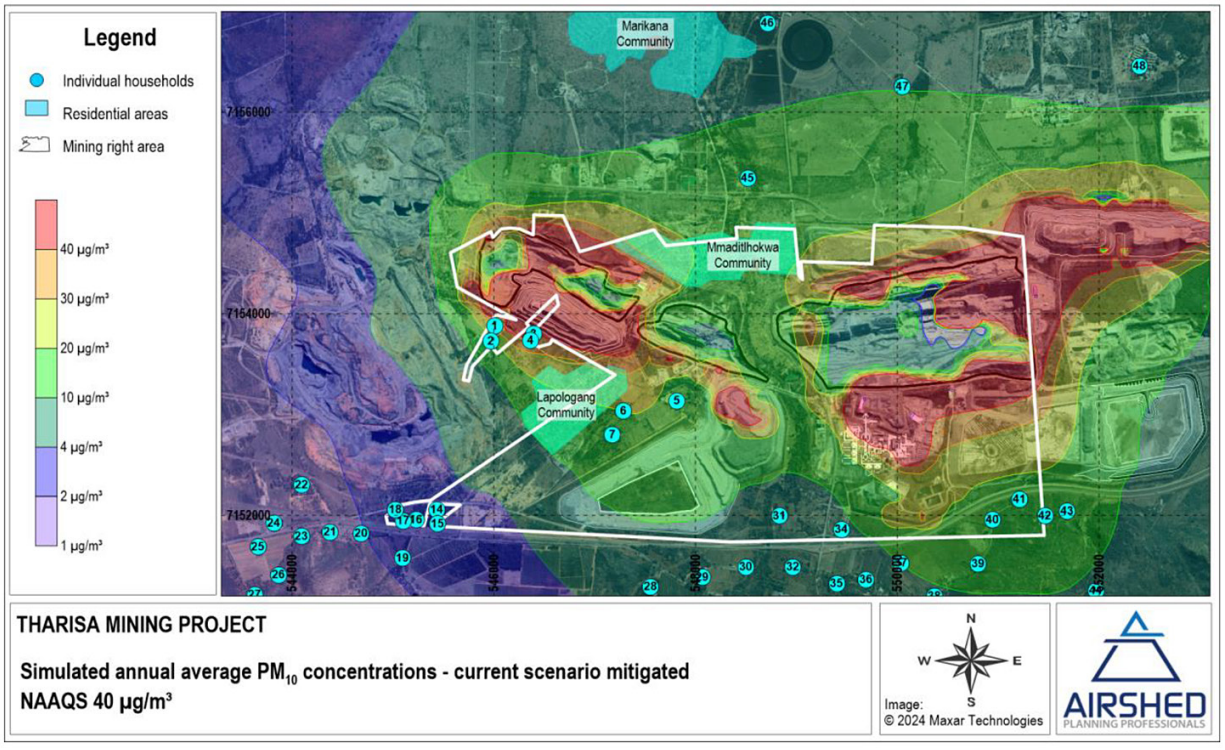
Tharisa developed a site-specific air quality management plan to mitigate dust impacts using proactive and reactive strategies, supported by dust monitoring stations. In 2024, 607 130 m³ (2023: 480 662 m³) of water was used for dust suppression through measures such as water sprinklers and suppression on haul roads.

PM10

Simulated PM10 daily Ground Level Concentrations (GLCs) currently exceed NAAQS in parts of the Mmaditlhokwa and Lapologang communities, as well as at AQSRs 3 and 4, northeast of the mining boundary. However, annual averages comply with NAAQS at all AQSRs.



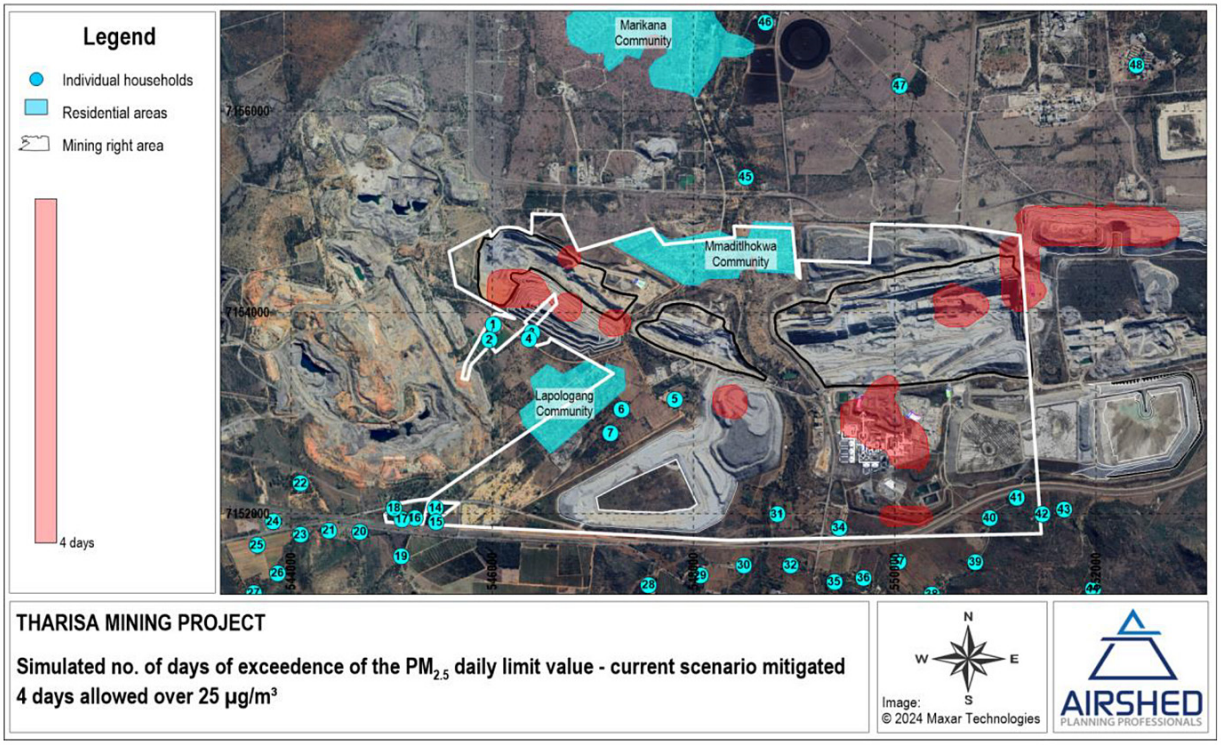
Current scenario – area of non-compliance of daily PM_{10} NAAQs (mitigated)



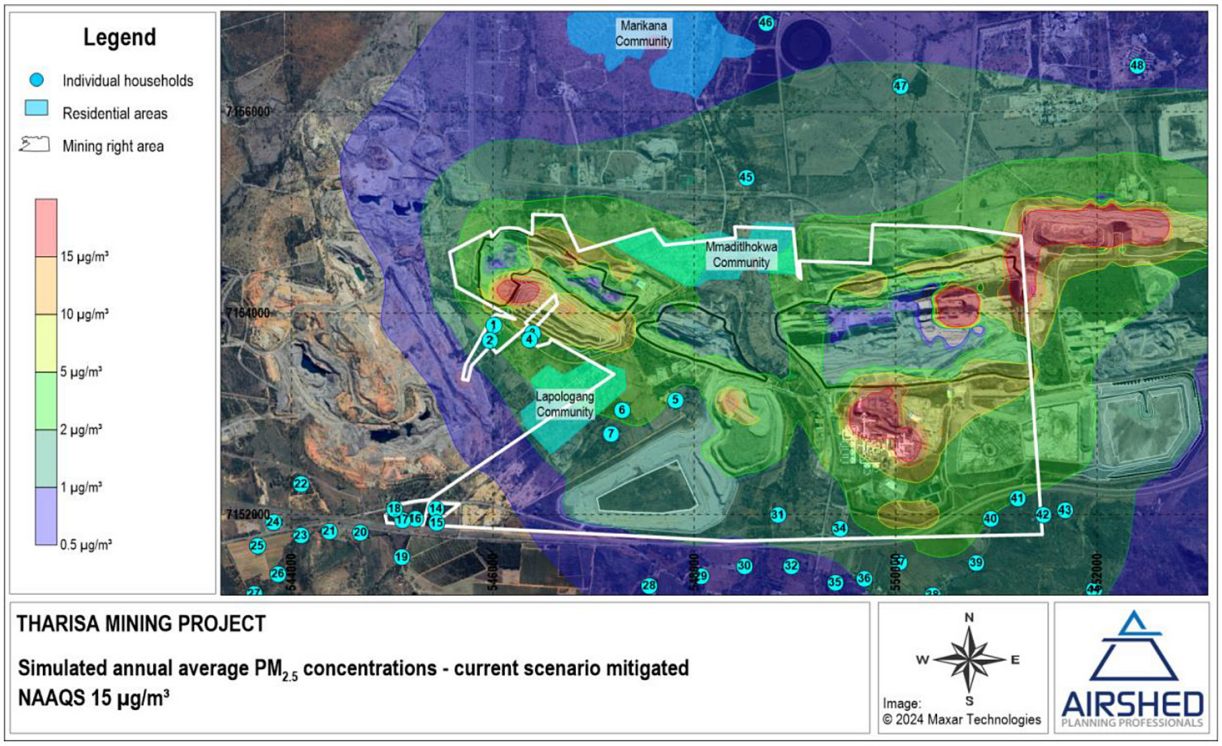
Current scenario – area of non-compliance of annual PM_{10} NAAQS (mitigated)

$PM_{2.5}$

Daily $PM_{2.5}$ GLCs exceed NAAQS to the northeast of the Mining Rights boundary, primarily over the WRD, but are within NAAQS on an annual average at all AQSRs.



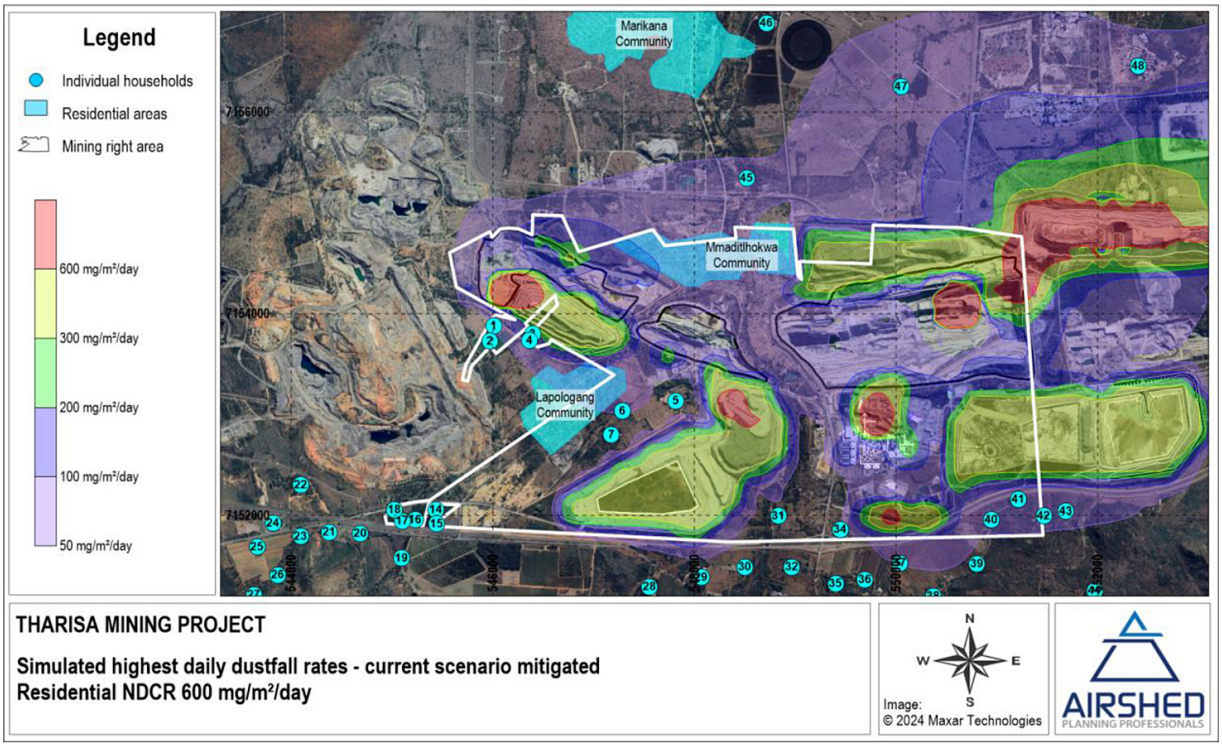
Current scenario – area of non-compliance of daily $PM_{2.5}$ NAAQS (mitigated)



Current scenario – area of non-compliance of annual $PM_{2.5}$ NAAQS (mitigated)

Dust fallout

Simulated daily dustfall rates comply with the national dust control regulations (NDCR) residential limit (600 mg/m²/day) at all AQSRs.



Current scenario – area of non-compliance with monthly dustfall NDCR (mitigated)

Mitigation measures

Tharisa aims to improve air quality through:

- Use of chemical suppressants
- Water sprays at tip points and dozer areas, reduced drop heights, and regular clean-up at loading points
- Frequent dust suppression
- Reshaping, topsoiling and replanting disturbed areas
- Monthly dustfall monitoring and PM_{10} sampling in the Mmaditlhokwa and Lapologang communities

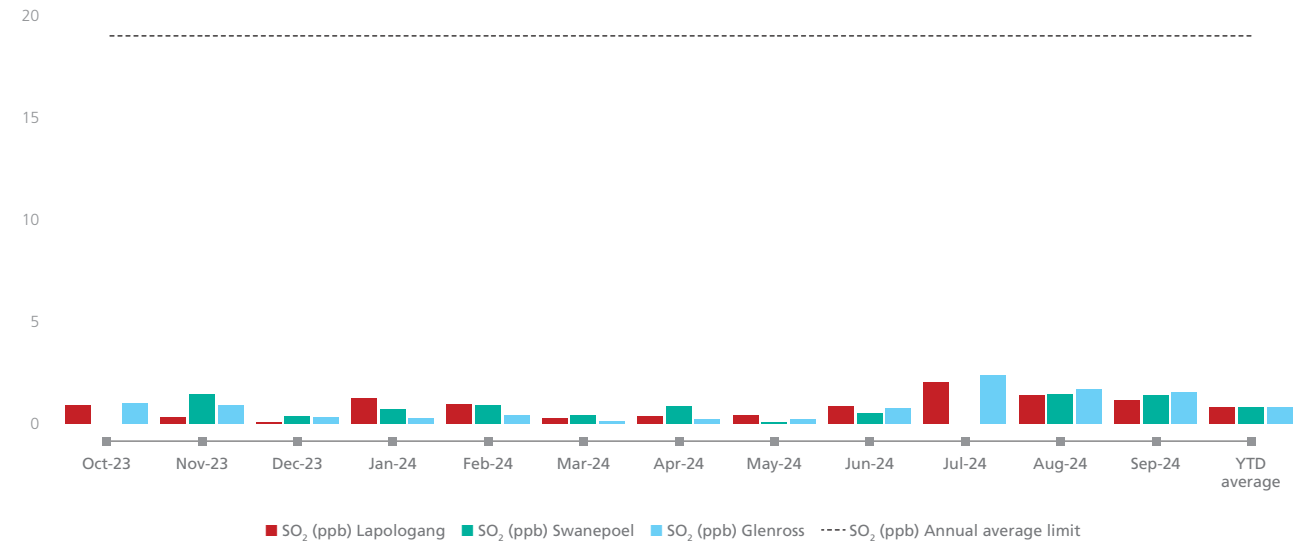
Passive monitoring

Passive air quality monitoring at Tharisa started in 2013 as part of a comprehensive environmental management strategy. This method, conducted by Skyside, focuses on monitoring sulphur dioxide (SO_2) and nitrogen dioxide (NO_2) levels, pollutants that often result from mining activities like blasting. The diffusive sampling technique is employed, which has several advantages: it requires no active supervision, operates silently and can be used in hazardous environments. This method also allows for simultaneous sampling across multiple locations and provides a broader understanding of long-term air quality trends in the surrounding area.

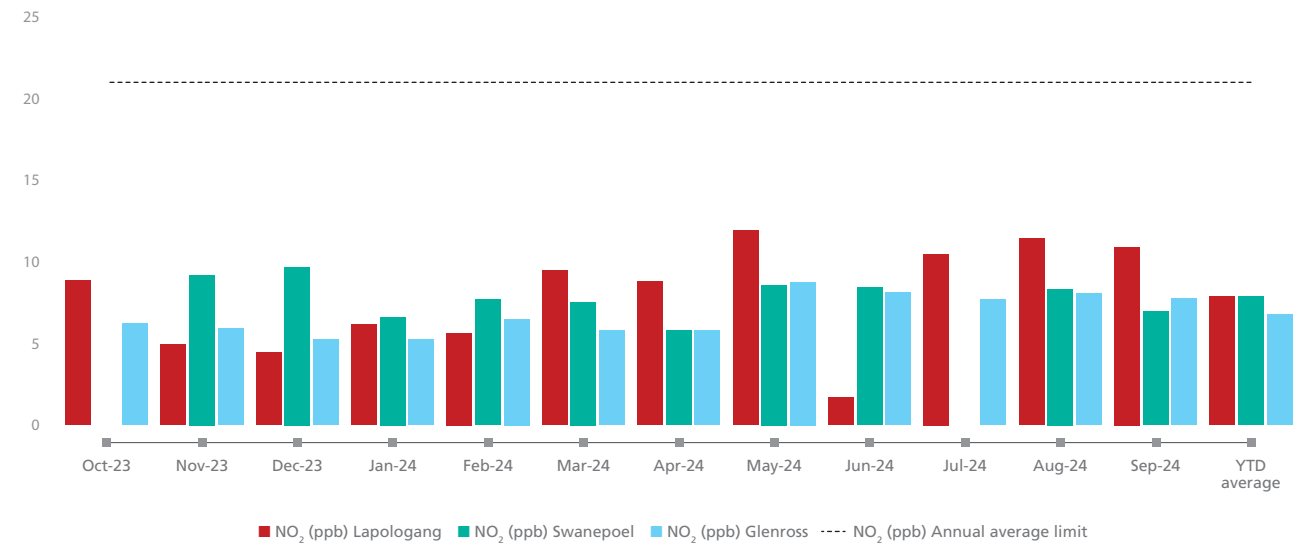
Three key locations (Lapologang, Glenross Farmhouse and Swanepoel) are being monitored to assess the air quality in nearby communities. They were chosen to provide a representative overview of the atmospheric impact of Tharisa's operations. The NAAQS is a benchmark and sets limit concentrations for SO_2 and NO_2 over various averaging periods. By adhering to these standards, Tharisa ensures that its passive air quality monitoring contributes to a long-term strategy of minimising environmental and health impacts on surrounding communities.

Tharisa can gather critical data over extended periods through this monitoring programme to allow for informed decision making and to continuously refine its air quality management practices. This reinforces the Company's commitment to environmental stewardship and regulatory compliance.

Monthly SO_2 (ppb)
(October 2023 to September 2024)



Monthly NO_2 (ppb)
(October 2023 to September 2024)



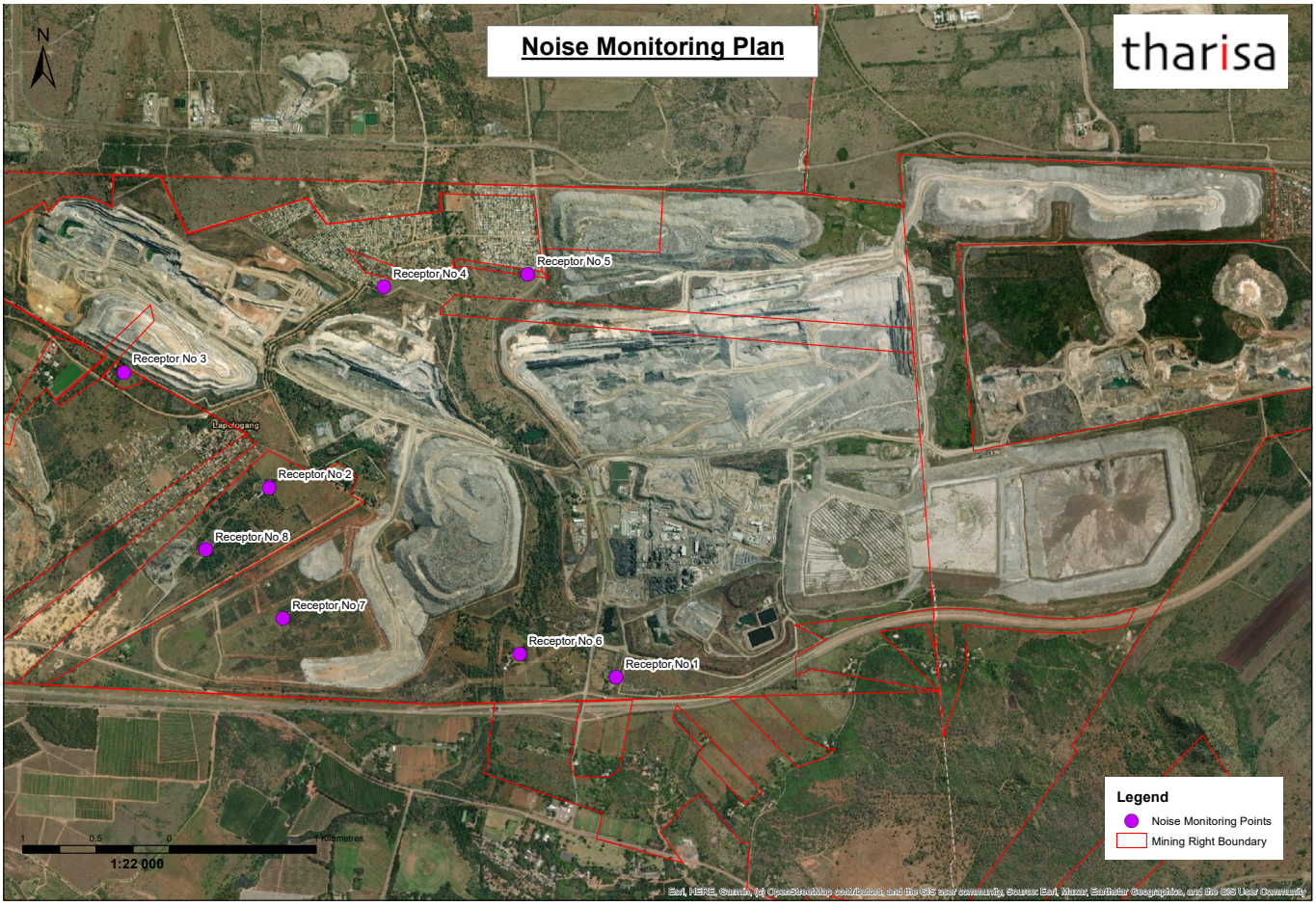
Noise management

Tharisa's operations contribute to noise pollution from crushing, processing, blasting, material handling, earth-moving equipment, packer machines and nearby traffic from the N4 highway. Recognising the effects of noise on wildlife, human activities and structures, Tharisa conducts monthly noise monitoring at strategic points (Figure 19) to assess and mitigate its impact.

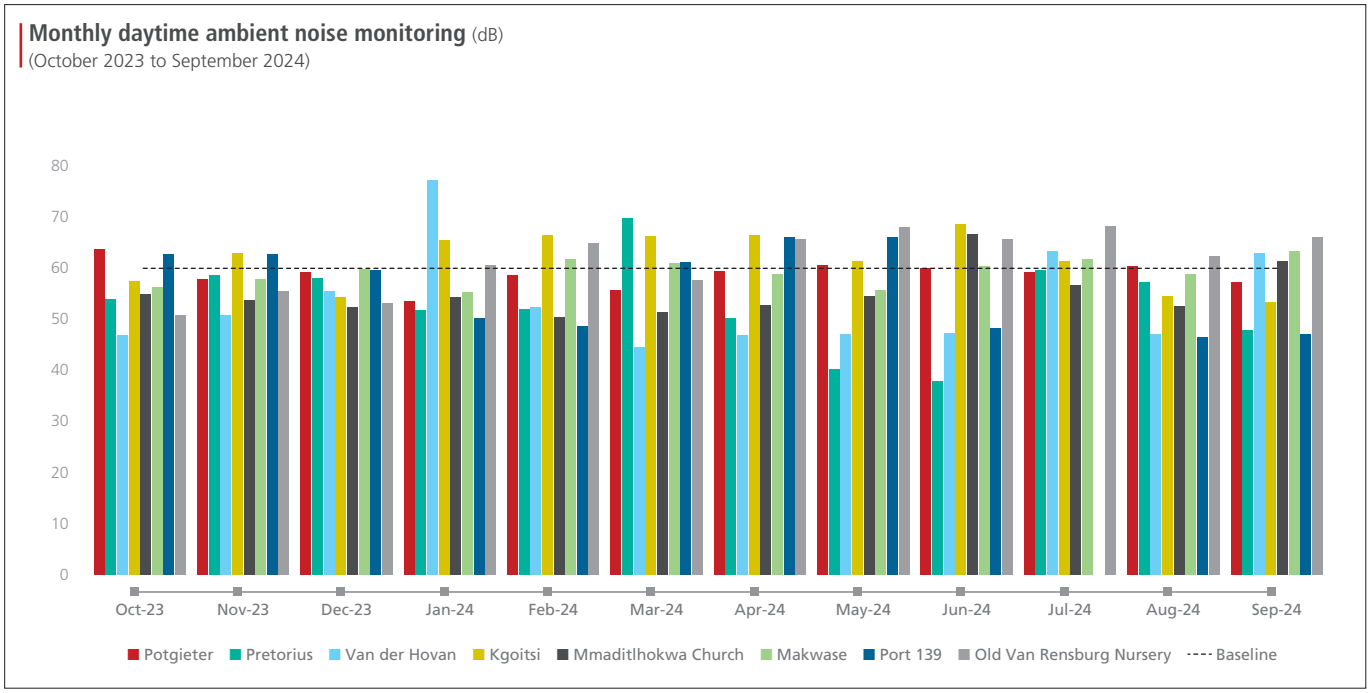
Surrounding urban areas, influenced by ambient noise from mining, highway traffic and agriculture, are held to SANS 10103:2008 standards, which limit noise to 60 dB(A) during the day and 50 dB(A) at night. Monitoring shows that blasting does not significantly elevate noise beyond other sources like N4 traffic. Although baseline data indicate some non-compliance with these standards, Tharisa's specific contribution to the noise climate is limited.

To further reduce mine-generated noise, Tharisa will implement:

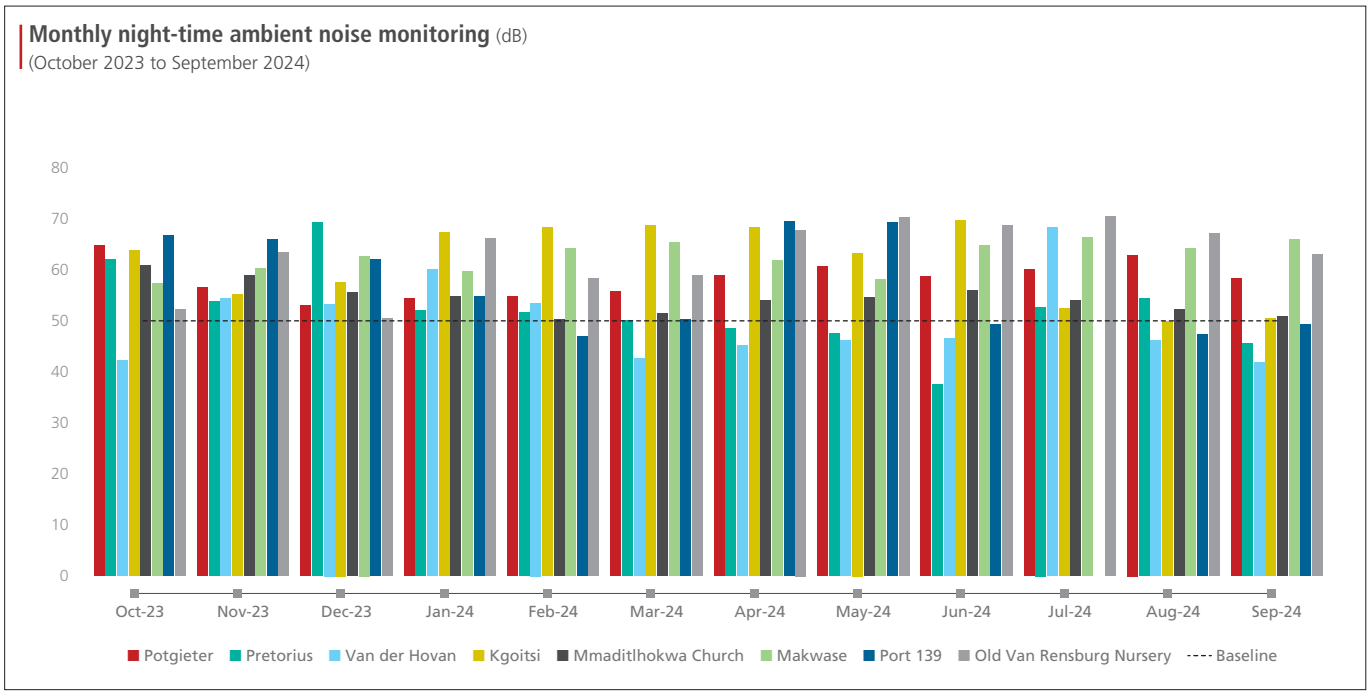
- Topsoil noise berms
- Regular vehicle maintenance
- Limited operational hours
- Replacement of noisy reverse alarms
- These efforts underscore Tharisa's commitment to minimising noise pollution and promoting the wellbeing of nearby communities.



Location of noise sampling points



Daytime noise monitoring



Night-time noise monitoring

Environmental compliance and management systems

Tharisa is committed to strict environmental compliance through a comprehensive management system that aligns operations and upgrades with local, national and international regulations. Each modification at the mine undergoes rigorous assessments to secure necessary permits related to land use, water management, waste disposal and air quality.

The mine's EMPr monitors and mitigates environmental impacts, ensuring adherence to legal standards and sustainable practices. Tharisa regularly updates its systems to align with evolving regulations and industry best practices, demonstrating its commitment to environmental stewardship and long-term sustainability.

As the mine continues to develop, additional EAs may be required. Tharisa is dedicated to ensuring that no activities proceed without the appropriate environmental permits. Since 2008, the Company has received several licences, including one new Environmental Authorisation (EA) in 2024.

Approved authorisations

The following licences have been issued to Tharisa from 2008 to date. In FY2024, one new EA was approved.

Approval	Reference	Licence type	Approval date
Mining EMPRs			
Environmental impact assessment and EMPr for a proposed PGM mine, Metago Project Number: T014-01, June 2008	DMRE reference number: (NW) 30/5/1/2/3/2/1/358EM	Mining Right (MR)	19 September 2008
	DACE reference number: NWP/EIA/159/2007	AE	23 October 2009
Amendment of the EA, 23 October 2009 to incorporate additional listed activities previously excluded: Transmission and distribution of above-ground electricity (120 KV or more)	DACE reference number: NWP/EIA/159/2007	EA and EMPr Amendment	30 August 2011
Environmental impact assessment and management programme report for changes to the pit, tailings dam and waste rock facilities; a chrome sand-drying plant and other operational and surface infrastructure changes, SLR December 2014	DMRE reference number: (NW) 30/5/1/2/3/2/1/358EM	EA and EMPr Amendment and Waste Management Licence (WML)	24 June 2015
	DEDECT reference number: NWP/EIA/50/2011	EA	29 April 2015
Amendment of an EA for increased storage capacity of tailings facility and waste rock dump and increase the authorised fuel storage capacity in respect of Farm Rooikoppies JQ 297, Elandsdrift JQ 467 and Kafferskraal JQ 342, within the Magisterial District of Bojanala, North West Province, Green Gold October 2020	DMRE reference number: NW 30/5/1/2/3/2/1/358EM	EA and EMPr Amendment and WML	3 August 2021
Tharisa additional waste rock storage environmental impact assessment and EMPr, SLR 2023 The expansion of the existing and approved far west WRD 1 by a footprint of 109 ha. The expanded area will be referred to as the west above ground (OG) WRD. Portions of the west OG WRD will be located on backfilled areas of the west pit; and The establishment of a waste rock dump (referred to as the east OG WRD) on backfilled portions of the east pit. The proposed east OG WRD will cover an area of approximately 72 ha.	DMRE: NW 30/5/1/2/3/2/1/358EM	EA and EMPr Amendment and WML	31 May 2023
Tharisa Mine Amendment IWUL (supersedes the 2020 IWUL)	Licence No. 03/A21K/ABCGIJ/1468	IWUL	17 September 2024
Supporting infrastructure			
EA for the diversion of an existing 275 kV powerline and associated infrastructure.	Department of Environmental Affairs (DEA) RoD reference number: 14/12/16/3/3/3/408	EA	15 November 2012
Amendment of an EA to upgrade the existing waste water treatment plant at the Tharisa Mine	DMRE: NW 30/5/1/2/3/2/1/358EM	EA and EMPr	14 August 2020
Rectification of an unlawful commencement of a listed activity for the storage of dangerous goods of more than 80 m^3 but less than 500 m^3	DMRE: NW 30/5/1/2/3/2/1/358EM	EA and EMPr	10 August 2021

Environmental audit results

EMPr audit	In February 2024, Tharisa completed its external biennial EMPr audit, assessing operational compliance with the approved EMPr (2008) and its amendments. The audit resulted in a compliance score of 81%.
EA Compliance audits	Tharisa conducts annual EA audits to evaluate compliance with conditions outlined in EAs issued from 2008 to 2024. The most recent EA audit occurred in November 2023, revealing a compliance rate of 99%. Tharisa will continue implementing mitigation measures and monitoring their effectiveness to maintain this high compliance score.
IWUL audits	
	Under the NWA, Tharisa received an IWUL on 16 July 2012. Following several requested amendments in 2013, the DWS issued an amended licence on 12 November 2020, which supersedes the original. An external annual IWUL audit was conducted in February 2024, resulting in a compliance rate of 92% with IWUL conditions. The next audit will assess the recently issued IWUL that replaces the 2020 version.

Community garden project

Task Force on Climate-related Financial Disclosures (TCFD)

Tharisa is a dual-listed entity and is listed on the JSE and the LSE. In accordance with the UK Financial Conduct Authority (FCA) Listing Rules, entities listed in the UK must disclose in accordance with the TCFD recommendations and disclosures from 2023 onwards. To comply with this requirement, Tharisa has referenced our integrated annual report against the recommendations and disclosures in compliance with the TCFD for the first time. We aim to enhance our disclosures in the coming financial years.

The table below provides our TCFD-recommended disclosures:

Governance: Disclose the organisation's governance around climate-related risks and opportunities.	
(a) Describe the Board's oversight of climate-related risks and opportunities	**2024** • Sustainability letter: Page 4. • Key focus areas and decisions of the Board during 2024: Page 124. • Climate Change and Sustainability Committee: Page 128. • Climate change governance: Page 130.
(b) Describe management's role in assessing and managing climate-related risks and opportunities	**2024** • Why invest in Tharisa: Page 1. • Principal risks and uncertainties: Page 48. • ESG principles and commitments: Page 57. • Climate change governance: Page 130.
Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's business, strategy and financial planning where such information is material.	
(a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term	**2024** • Our strategy: Page 2. • Sustainability letter: Page 4. • Principal risks and uncertainties: Page 48. • United Nations SDGs: Page 58. • Climate change: Page 62.
(b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning	**2024** • Sustainability letter: Page 4. • ESG principles and commitments: Page 57. • Financial provision: Page 75.
(c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	**2024** • Why invest in Tharisa: Page 1. • Sustainability letter: Page 4. • Climate change governance: Page 130.
Risk management: Disclose how the organisation identifies, assesses and manages climate-related risks.	
(a) Describe the organisation's process for identifying and assessing climate-related risks	**2024** • Principal risks and uncertainties: Page 48. • New Business Committee: Page 128.
(b) Describe the organisation's process for managing climate-related risks	**2024** Environmental management: Page 62.
(c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management	**2024** • How Tharisa creates shared value: Page 18. • Principal risks and uncertainties: Page 48. • Climate change: Page 62.
Metrics and targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	
(a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	**2024** • Our strategy: Page 2. • Principal risks and uncertainties: Page 48.
(b) Disclose Scope 1, Scope 2 and if appropriate, Scope 3 GHG emissions and the related risks	**2024** • United Nations SDGs: Page 58. • Climate change: Page 62.
(c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets	**2024** • Sustainability letter: Page 4. • Climate change: Page 62.

OUR SOCIAL IMPACT

Engaged employees

At Tharisa, we understand that an engaged workforce is crucial for our success and strategic goals.

We are committed to fostering a diverse, inclusive and safe work environment that empowers employees to contribute meaningfully to create a sense of ownership and accountability. Embracing diversity enhances our decision making and sparks innovation, ensuring that all employees feel valued and can voice their ideas.

We prioritise employee wellbeing as a core tenet of our culture and invest in their professional and personal development through training, mentorship and career advancement opportunities. Open communication fosters transparency and aligns with our Group's vision.

Safety is paramount and we maintain a risk-minimised work environment through rigorous protocols and regular training. Our proactive approach encourages employees to take ownership of their safety and that of their colleagues.

This holistic approach to engagement enhances individual performance, builds long-term loyalty and reduces staff turnover, ultimately supports Tharisa's sustainable success and positively impacts our communities. By investing in our people, we position ourselves as an employer of choice and a leader in the mining industry.

Key human capital metrics

3 051 permanent employees (2023: 4 261)
Employee voluntary turnover 175% (2023: 268%)
US$1.6m spent on training and skills development (2023: US$1.9m)
1 061 contract employees (2023: 2 327)
AWOP rate 2.99 (2023: 171)

Matters material to our human capital

PEOPLE MANAGEMENT

- Labour availability
- Attract and retain critical management skills
- Industrial and employee relations
- Diversity and inclusion
- Safety, health and wellbeing
- Leadership succession

We contribute to these SDGs through our approach to human capital

Employee value proposition

At Tharisa, we are committed to creating a work environment where employees feel valued, respected and proud to be a part of. Our comprehensive Employee Value Proposition (EVP) framework highlights the benefits available to our workforce.

Personal growth	We support our employees' professional development through training programmes, mentorship and career advancement opportunities.
Safety and wellbeing	Safety is a top priority with rigorous protocols and ongoing training to ensure a healthy work environment.
Responsible business practices	We also emphasise ethical and sustainable business practices that positively impact our communities and the environment.
Inclusivity	Inclusivity is central to our culture and we celebrate diversity and empower employees to share their perspectives.

By aligning our EVP with our core values of employee wellbeing, collaboration and talent development, we position ourselves as an employer of choice in the mining industry. We are dedicated to achieving excellence while ensuring the success and fulfilment of our employees.

Bongane Nkuna, Stakeholder Engagement and Liaison Officer

Harmony and unity at Tharisa

At Tharisa, we are dedicated to promoting harmony and unity in the workplace and recognise that a cohesive environment is vital for employee satisfaction and organisational success. We cultivate an inclusive atmosphere where everyone feels involved, respected, valued and empowered, which enhances morale and encourages collaboration.

Our focus on growth and development provides opportunities for advancement through training, mentorship and professional initiatives. Building relationships based on mutual trust and respect is central to our culture. We promote open communication and value diverse perspectives which enrich our decision-making processes. By celebrating local cultures and backgrounds, we create a vibrant community that reflects our collective identity.

We prioritise cultivating a sense of pride and belonging in the workplace, which leads to higher engagement and commitment, supporting our mission for a sustainable future for all stakeholders. We aim to create an organisational culture that empowers employees to realise their potential and feel fulfilled in their contributions. Our commitment to a safe and supportive work environment is underscored by safety and wellbeing initiatives.

By aligning our culture with core values and strategic objectives, we encourage employee engagement and collaboration, cultivating a high-performance culture that drives success.

Diversity and inclusion the Tharisa way

We thrive through our diversity, using it as a powerful asset that drives innovation and collaboration.

At Tharisa, we are committed to fostering genuine transformation through diversity, equity, inclusion and belonging. We aim to cultivate an inclusive culture where employees feel valued and empowered to share their unique perspectives. We prioritise fair treatment and respect for everyone, ensuring that every voice is heard.

Our initiatives focus on providing opportunities for personal and professional growth through targeted recruitment, comprehensive training programmes and mentorship. We encourage open dialogues about diversity and inclusion and create safe spaces for employees to share their experiences.

Our commitment extends beyond compliance; we strive for authentic cultural change by integrating diversity principles into our corporate strategy and daily operations. We celebrate diversity in all its forms, recognising that our differences (related to life experiences, gender, race and more) enrich our workforce.

We take pride in our diverse culture and inclusive practices, which are supported by our Diversity and Inclusion Policy Statement and employment equity policy. Focusing on our similarities and creating an environment where everyone feels respected and welcomed strengthens our sense of family and enhances our collective success.

Workforce composition

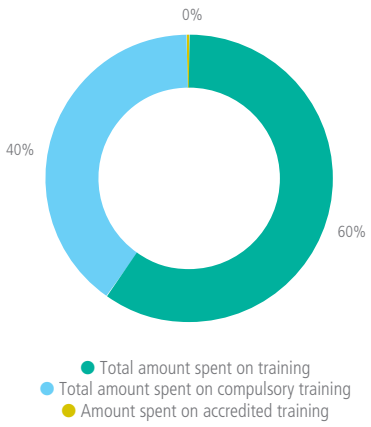
At Tharisa, we are proud to have a diverse workforce comprising 1 990 employees (2023: 1 934) and 1 061 contractors (2023: 2 327), with women representing 26% of our total workforce (2023: 26%).

Talent management, retention and skills development

At Tharisa, our long-term success hinges on attracting and developing top talent to enhance our organisational capacity and drive growth. We prioritise retaining skilled employees through competitive remuneration, vital human resources (HR) development initiatives and a commitment to employment equity. These are bolstered by comprehensive people management policies which reinforce our reputation as a fair employer.

Our performance management system aligns organisational goals with individual development plans, fostering a culture of care and recognition. We emphasise a robust talent management framework that identifies high-potential employees and provides targeted development opportunities to ensure a pipeline of future leaders. Our inclusive development programmes cater to employees at all education levels and offer various training and educational assistance linked to career paths in the Group. Our focus on continuous learning and performance excellence empowers us to maintain a competitive edge while supporting our strategic goals and workforce stability.

Annual capital spent on educational development (%)



Tharisa bursary recipient shines bright

Pontsho Mbizo, a proud Tharisa bursary recipient, has made remarkable strides in his academic journey and recently earned a spot on the Dean's Merit List at the University of Cape Town. Hailing from Marikana, Pontsho graduated with eight distinctions and is now pursuing an electrical and computer engineering degree. He shared how Tharisa's bursary programme has significantly impacted his life, easing his transition to university and providing financial and moral support. Pontsho's inclusion on the Dean's Merit List reflects his dedication to academic excellence. His time as a Tharisa holiday student has given him invaluable hands-on experience and professional connections in engineering.

Kgaugelo Mahlape, Engineer in training

Empowering women in engineering

At Tharisa, empowering women in engineering is a crucial aspect of our commitment to building a more inclusive future. We are excited to introduce some of our engineers in training who are making significant strides and infusing fresh perspectives into Tharisa Minerals. These emerging talents are developing their technical skills and playing a vital role in shaping a more diverse and innovative workplace.

We recently had the chance to connect with these remarkable trainees to learn about their journeys. They shared their experiences in navigating the challenges and opportunities in the engineering field and the support and mentorship they received. Their reflections on Women's Month emphasised the importance of celebrating women's contributions to engineering and the need for ongoing efforts to promote gender equality in all sectors. Through their stories, these engineers embody Tharisa's dedication to fostering an environment where women can thrive and lead in the mining industry.

Employee safety, health and wellbeing

Key safety metrics

Highlights

- Strengthened operational safety risk management at all levels
  - 0 fatal injury rate (FIIR) (2023: 0.02)
  - 0.2 total injury incidence rate (TIIR) (2023: 0.32)
  - 0.05 lost-time injury incidence rate (2023: 0.14)
  - 0 number of fatalities (2023: 1)
  - 4 079 employees who know their HIV status (2023: 3 999)

Focus areas for 2025 and beyond

- Commitment to zero harm
- Enforce operational discipline
- Reduce the number and severity of injuries

Safety and wellness

We remain committed to exceeding regulatory standards and embedding safety in our core values to create a workplace where safety is a shared commitment. Together, we are building a safer future for our workforce and the communities we serve.

At Tharisa, employee safety is our top priority and every team member is responsible for ensuring that everyone returns home safely to their loved ones. We encourage a robust health and safety culture that is integrated into our daily operations, encouraging leadership, engagement and participation from all employees.

To minimise harm, we have implemented a comprehensive SHE management system that assesses current and emerging risks through robust policies and procedures. We continuously evaluate our practices and incorporate feedback to maintain a safe working environment for everyone.

Recognising that safety extends beyond compliance, we prioritise ongoing training, open communication and empowering individuals to take ownership of safety practices. Regular safety drills, workshops and training ensure that all employees can identify potential risks and respond effectively.

Tharisa SHE management system

We take a proactive approach to SHE management and prioritise the safety and wellbeing of our employees. We provide essential information and regular training to foster a culture of SHE awareness. While we implement robust systems and procedures, all employees are responsible for addressing SHE risks, empowering them to identify and mitigate hazards.

We regularly assess our SHE performance using detailed indicators to track progress, identify areas for improvement and align our practices with international best standards. Open communication is encouraged and allows employees to report incidents and unsafe conditions without fear of reprisal, which strengthens our safety culture.

Our training programmes emphasise compliance and practical skills and equip employees to respond effectively to risks. We view SHE management as an ongoing journey and integrate these principles into our operations to protect our workforce, minimise environmental impact and enhance community wellbeing.

Reaching safety milestones

We prioritise the safety and health of our employees and recognise them as our greatest assets. Our commitment to safety is integral to our core values and operational practices and is supported by a comprehensive safety management system that implements effective protocols at all levels.

We conduct continuous risk assessments to identify hazards and refine our standards and training programmes. To ensure compliance, we employ an "over-inspection" system where supervisors perform thorough operational checks, which are complemented by planned task observations for real-time feedback.

Visible leadership is crucial in reinforcing our safety culture with leaders actively participating in safety initiatives and audits. Ongoing training and coaching help equip employees with the requisite knowledge for safe practices.

We adhere to mandatory codes of good practice and conduct regular SHE audits to identify areas for improvement. Through these, Tharisa promotes a culture of shared responsibility for safety and enhances our operational excellence to create a resilient workforce that drives our organisation's success.

These safety statistics were accomplished this reporting year through interventions and continuous monitoring of safety indicators:

	2024	2023
LTI	**0**	7
LTIFR	**0.00**	0.13

Thulile Zamisa, Occupational Hygienist, Safety Department (left), and Thabo Lesenya, SHE Manager, Safety Department

Safety milestone

On 3 July 2024, the Arxo Metals Beneficiation Site (AMBS) proudly achieved a significant milestone by completing 365 days without any LTIs. This reflects our unwavering commitment to maintaining a safe working environment and highlights the collective efforts of our entire team to prioritise safety in all aspects of our operations.

To honour this achievement, we held a special celebration on site, bringing together our dedicated team members to acknowledge their hard work, vigilance and commitment to safety practices. Each team member plays a crucial role in fostering a safety culture and it was essential to recognise the contributions that led to this milestone. At AMBS, safety is more than just a priority, it is embedded in our Company's core values and daily operations. We are continuously striving to enhance our safety standards.

Empowering women's safety

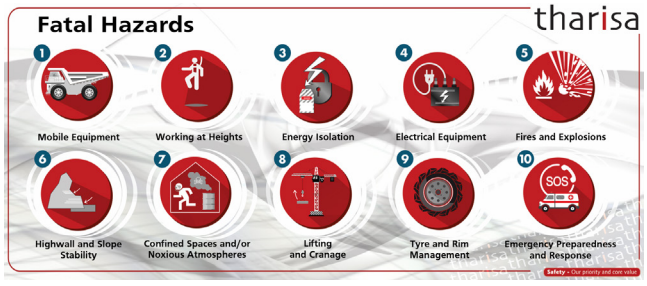
Our Protection Services team recently organised an inspiring motivational session focused on empowering our female team members. This provided practical development tools in support of an environment where women can thrive in their work roles. Held on 22 August 2024, the session encouraged participants to dream bigger and believe in their potential to excel in traditional male-dominated fields.

Through engaging discussions and interactive activities, the women were inspired to challenge the status quo and set their sights higher regardless of potential barriers. The session highlighted the importance of resilience, confidence and community support in navigating challenges at the workplace. By creating a space for open dialogue and personal growth, the event aimed to equip women with the mindset and skills to pursue their ambitions and redefine success on their terms. This initiative underscores our commitment to fostering an inclusive workplace where all team members can reach their full potential.

SafeTharisa – safe season trumps silly season
The health and safety of our employees is a core value and drives our commitment to achieving zero harm. Our SHE management system establishes clear standards, codes and tools to ensure every employee understands their responsibilities regarding safety.

Leadership is dedicated to prioritising safety and sets the tone by leading by example. The newly launched SafeTharisa initiative aims to unify operations and projects by engaging all managers, employees and contractors to eliminate fatalities and serious injuries. Key components of SafeTharisa include the SafeLife Behaviours and fatal hazard codes, which are essential for promoting a safe working environment.

Tharisa has identified fatal hazard codes specifically designed to tackle the common causes of serious injuries and fatalities in the mining sector. These codes are implemented in order of priority and when managed effectively, can eliminate fatal and serious injuries from our operations. By focusing on these critical areas, Tharisa aims to enhance safety and protect the wellbeing of all employees.



At Tharisa, we have identified SafeLife Tools to ensure zero harm to employees, contractors, visitors and the community.

SafeLife Behaviours
Tharisa enforces strict disciplinary measures for wilful violations to safeguard employees, encouraging everyone (employees, contractors and visitors) to prioritise safety.

SafeLife Behaviours at Tharisa aim to prevent fatalities by promoting safety practices based on past incidents. Violating these behaviours is taken seriously as it involves engaging in unsafe acts that endanger oneself, others or the Company.

Disciplinary proceedings are initiated for wilful violations, with penalties determined through a fair treatment process aimed at fostering a safe working environment. Tharisa also stresses that safety extends beyond the workplace and into employees' home lives.

By integrating Systems, Environment, Equipment and People (SEEP) into the Stop-Look-Assess-Manage (SLAM) approach and using the former during hazard assessments, Tharisa effectively identifies and manages potential hazards to prevent unwanted events.

Visible coaching leadership
Visible coaching leadership fosters a positive workplace culture by setting a strong example of the desired behaviours, work ethic and commitment to safety.

These leaders embody the values and expectations of the organisation, inspiring employees to align their actions with these principles. The benefits of this leadership are significant and include increased employee engagement, improved safety performance and enhanced productivity. By actively coaching and supporting their teams, visible coaching leaders cultivate a culture of collaboration, continuous learning and shared accountability. This empowers employees and contributes to developing a strong and motivated workforce, ultimately driving long-term success for the organisation. Other tools we use at Tharisa include:

T-Connect (Tharisa Connect)	A crucial element of our health and safety management system is facilitating effective communication and collaboration.
Incident Cause Analysis Method (ICAM)	A comprehensive and systemic approach to safety investigation that identifies the root causes of incidents.
Isometrix	An electronic management system designed to enhance document organisation, improve collaboration and communication across teams, provide robust version control and audit trails, increase data security and access control, and streamline workflows for greater efficiency.
Level 1 risk assessment	Uses the SLAM technique and encourages employees to stop work if they identify potential threats to their health and safety.

My health is my wealth

We prioritise the holistic wellbeing of our employees and recognise that good health encompasses more than just physical wellness. We take mental health and social wellbeing seriously and conduct annual medical assessments through our medical surveillance programme to screen employees' physical health and ensure they can perform their roles effectively.

We have established an employee assistance programme (EAP) in our wellness department to support mental and emotional health. It is staffed with professional therapists and social workers who assist Tharisa employees and their immediate family members. Understanding that a healthy body contributes to a healthy mind is central to our approach.

We also promote wellness through "Wellness Wednesdays" to explore various health topics and share valuable resources through our communication channels to reinforce our commitment to overall wellbeing.

Holistic wellness

At Tharisa, people are our greatest asset and we aim to assist and care for our fellow employees with a clear wellness strategy. A well-established referral structure and allocating the required resources for employees to feel valued, supported, heard, safe and cared for is part of the strategy.

As part of the wellness department's support structure, we have registered professionals on site and an external company that we partner with to support our employees through EAP and counselling services. The need and value of this platform is supported by the numbers and 634 sessions were held with employees and contractors during the financial year.

Our EAP services include:

- Anxiety and stress
- Child-related concerns
- Domestic violence, abuse and GBV
- Family and marital concerns
- Financial planning and guidance
- Grief and bereavement
- Illness-related concerns
- Life after employment
- Personal wellbeing
- Sexual assault
- Sleeping disorders
- Substance and/or alcohol abuse
- Suicidal tendencies due to depression
- Traumatic events
- Work-related concerns

Engaging with our employees

Employee relations

Our strategic employee relations objectives prioritise treating our employees with respect and care while empowering them to voice concerns through direct communication with supervisory leadership and established labour relations structures. Our labour relations policy upholds the rights of employees and contractors by emphasising freedom of association and the recognition of trade unions.

We are committed to empathetic listening and swift issue resolution by management. This ensures effective and regular communication with employees and maintains respectful leadership with clear objectives. Our inclusive employee relations model integrates policies, procedures, systems, agreements and legislation to address wages, cultural identity and conditions of employment. This comprehensive approach fosters employee stability, industrial peace and sustainable partnerships with contractors and stakeholders.

Collective bargaining

Key labour relations policies and practices ensure that freedom of association and constitutional rights are protected to promote compliance with relevant legislation and regulations. Our labour relations strategy aligns labour partners with our vision, values and business goals to foster collaboration and create a conducive working environment. We work with recognised trade unions to manage labour relations effectively to ensure our employees' right to freedom of association and to strengthen communication with union leaders.

Social stewardship

Tharisa is committed to the socioeconomic upliftment of its employees and surrounding communities. Building trust and maintaining transparency are essential to securing our social licence to operate.

The Company strives to create self-sustaining, inclusive mine communities by driving positive social and economic development. This aligns our social performance efforts with the expectations of local communities to ensure long-term resilience and cultivate solid, future-proof communities.

Tharisa promotes community wellbeing, education, enterprise development and job creation. Through our SLPs and CSI initiatives, we aim to reduce unemployment and poverty and bridge infrastructure gaps, while promoting transparency and building trust with local communities.

Key metrics for our role in society

ZAR19 981 850 total CSI spend (2023: ZAR18 561 202)

Matters material to our role in society

SOCIAL PERFORMANCE

- Community safety
- CSI initiatives
- Enterprise supplier development (ESD)
- Licence to operate
- Preferential procurement

We contribute to these SDGs through our approach to social and relationship capital.

A chance to get to know our communities

Tharisa Minerals is located in the Bojanala District Municipality in the Rustenburg Local Municipality, near the town of Marikana. Its closest neighbouring community is Mmaditlhokwa from which about one-third of Tharisa Minerals' employees and contractors originate. This proximity provides a strong connection between the mine and the local community, which makes social and economic development a priority.

Tharisa's strategy for advancing its host communities closely aligns with the local municipality's Integrated Development Plan (IDP). This ensures that our efforts align with the broader regional growth and development goals. We incorporate various community-driven initiatives into our SLPs to bring this strategy to life.

Some of the key initiatives include:

- Local economic development projects aimed at improving infrastructure and economic activity in the community.
- Bursary awards for local Grade 12 learners allow them to pursue higher education.
- Internships and bursaries to help young people gain skills and qualifications for meaningful employment.
- Work-integrated learning programmes designed to combine academic learning with practical, on-the-job training.
- Apprenticeships and holiday work opportunities offer local youth hands-on experience in various technical and operational fields.

Through these initiatives, we contribute to the local community's economic wellbeing and invest in its residents' long-term development, particularly the youth. This strengthens the community's social fabric and builds a more resilient and sustainable future for all.

Total SLPs/CSI spend

	2024 ZAR	2023 ZAR
Total amount spent on SLPs	**19 981 850**	18 561 202
CSI spend	**5 712 535**	8 501 663
Infrastructure development	**6 688 807**	9 502 487

We stay connected to our communities (partners)

People and community empowerment are central to Tharisa's values, particularly in promoting academic and economic growth.

We prioritise direct engagement with our host communities to nurture meaningful relationships and address their specific needs more effectively. Located in Ward 32 of the Rustenburg Local Municipality, the mine interacts with diverse stakeholders, including employee families and small-scale farmers, and tailor our approach to meet each group's unique concerns.

We participate in structured community engagements, using task teams to gather feedback and present risk assessments to the DMRE. We value the input of local stakeholders to guide sustainable development, recognising that maintaining our social licence depends on supporting the community socially and economically.

SLPs and community social initiatives

We focused our SLPs and community initiatives on critical areas such as education, portable skills training, telecommunications, healthy living and supporting vulnerable populations. These efforts aimed to enhance the local education system and reduce the literacy gaps in the community. A summary of these contributions highlights our commitment to empowering our host communities through targeted social programmes designed to create lasting positive impacts.

Community initiatives	2024		2023		2022	
	Beneficiaries	**Status**	**Beneficiaries**	**Status**	**Beneficiaries**	**Status**
AET	**14**	**Completed**	51	Completed	116	Completed
Learnership	**7**	**In progress**	7	In progress	20	In progress
Bursaries	**9**	**In progress**	6	In progress	2	In progress
Internships (external)	**18**	**In progress**	18	In progress	42	In progress
Portable skills	**25**	**Completed**	25	Completed	45	Completed
Total	**73**		**107**		**225**	

We are committed to recruiting from local communities and focus on training programmes that equip local youth with the skills needed for employment at Tharisa and in the wider mining industry. In 2024, we provided free basic numeracy and literacy training to many community members, helping them to qualify as artisans and improving their employability.

We also offer internships to graduates, giving them workplace experience and job-seeking advice. As a mechanised operation, we cannot meet all local employment needs so we have partnered with the community to maintain a recruitment database that identifies candidates for job opportunities and training.

Our procurement traditions

Mining Charter compliance

At Tharisa, we value our suppliers and partners who provide essential goods and services for our operations. Recognising that our success is linked to the local economy, we take pride in our commitment to inclusive procurement, believing that "charity begins at home".

We are committed to complying with South African legislation and the Mining Charter, understanding their role in promoting equality and empowerment in the mining sector. Given this commitment, we have invested ZAR1 802 815 394 in HDP women-owned businesses and broad-based black economic empowerment (B-BBEE)-compliant companies (2023: ZAR2 270 986 010). This ensures our compliance with the Mining Charter and supports the growth of under-represented groups in our communities.

By cultivating relationships with HDP and women-owned enterprises, we aim to create a more equitable and sustainable business environment. We actively seek suppliers who share our commitment to these values, building a diverse supply chain that benefits all stakeholders. Our inclusive procurement strategy enhances our operational efficiency while positively impacting the socioeconomic development of the communities we serve.

Mining goods

Category	Spend value			Spend target	Spend target vs actual			Variance
	2024 ZAR	2023 ZAR	2022 ZAR	%	**2024 %**	2023 %	2022 %	**(2024) %**
HDP	**774 552 217**	671 428 665	1 210 465 707	21	**43**	30	50	**22**
Women	**356 996 185**	240 179 892	459 789 752	5	**20**	11	19	**15**
BBBEE-compliant	**5 134 941 549**	1 569 420 907	1 940 657 371	44	**285**	69	81	**241**
Total spend	**1 802 815 394**	**2 270 986 010**	**2 408 563 589**	70	**348**	**110**	**150**	

A key focus is providing access to quality higher education for local youth, empowering them to secure better job opportunities and contribute to regional socioeconomic development. We are also committed to skills training for our existing employees to ensure they adapt to the evolving demands of the mining industry.

By prioritising education and professional development, we aim to improve service delivery and foster a culture of growth in our organisation and surrounding communities to create a lasting positive impact.

Service goods

Category	Spend value			Spend target	Spend target vs actual			Variance
	2024 ZAR	2023 ZAR	2022 ZAR	%	**2024 %**	2023 %	2022 %	**(2024) %**
HDP	**1 762 598 091**	1 132 439 820	1 100 586 650	50	**42**	48	47	**(8)**
Women	**367 006 213**	239 967 970	278 273 276	15	**9**	10	11	**(6)**
Youth	**182 378 782**	74 773 328	46 077 506	5	**4**	3	6	**(1)**
BBBEE-compliant	**5 187 836 368**	2 046 938 994	2 321 856 257	10	**122**	86	98	**112**
Total spend	**4 242 573 052**	**2 378 193 794**	**2 377 975 133**	**80**	**177**	**147**	**162**	

R&D

Category	Spend value	Spend target	Spend target vs actual
	2024 ZAR	%	**2024 %**
Total spend	**6 328 760**	**70**	**100**

Sample analysis

Category	Spend value	Spend target	Spend target vs actual
	2024 ZAR	%	**2024 %**
Total spend	**7 553 174**	**100**	**100**

Enterprise and supplier development spend with the community

The BBBEE Act and the Codes of Good Practice aim to rectify historical inequalities and promote the economic participation of black individuals in South Africa. ESD is a crucial element of the BBBEE scorecard and focuses on enhancing and diversifying supply chains while promoting economic transformation.

In 2024, Tharisa committed ZAR60 355 057 to procure supplies from 27 black-owned companies (2023: ZAR18 977 020), demonstrating our dedication to supporting black entrepreneurship and contributing to broader economic change. These case studies depict some of the initiatives undertaken in 2024:

Women in Mining Committee (WIM) supports campaign and event against women and children abuse

WIM recently participated in a pivotal event dedicated to combating abuse against women. The event was hosted by the Association of Women in Mining South Africa (AWIMSA) in collaboration with various companies and occurred at the Serling Sports Ground. It aimed to raise awareness, promote collaboration and empower the community to take a stand against these pressing issues.

Attendees discussed the root causes of abuse against women and children including poverty, unemployment, lack of gender equality and dependency. Participants were informed about the support available for GBV survivors including counselling services, police assistance and trained pastors who could provide help in such cases.

Multiple companies pledged to provide skills development programmes and entrepreneurship opportunities for women to combat abuse and support the United Nations SDGs. This initiative aims to empower women and create pathways to independence to create a safer and more equitable community for all.

New brick-making plant at Rocasize

The new brick-making plant at Rocasize aims to boost production capacity significantly and addresses the current shortfall caused by the existing machine, which produces only 1 000 bricks per shift. The current Hydro-Form V3se machine, priced at ZAR760 713.50, generates about 20 000 bricks monthly, resulting in a financial loss and missed opportunities for off-take contracts with hardware stores.

The new PMSA Twin UNI Plant, priced at ZAR2 333 511 offers a substantial upgrade and can produce 22 000 bricks per shift and 440 000 bricks monthly. With its twin mould system, Rocasize can produce two products simultaneously and secure hardware store contracts. This increase in production will create more jobs for local community members who will be trained to operate the machinery, boosting both output and operational efficiency.

INDEPENDENT ASSURANCE STATEMENT TO THE MANAGEMENT OF THARISA PLC

INTRODUCTION

IBIS Environmental Social Governance Consulting Africa (Pty) Ltd (IBIS) was commissioned by Tharisa PLC (Tharisa) to conduct an independent third-party assurance engagement in relation to the sustainability information in its Annual Report (the Report) for the financial year that ended 30 September 2024.

IBIS is an independent licensed provider of sustainability assurance services. The assurance team was led by Petrus Gildenhuys with support from Megan Nair, Meriska Singh and Thabo Mokate from IBIS. Petrus is a Lead Certified Sustainability Assurance Practitioner (LCSAP) with more than 25 years' experience in sustainability performance measurement involving both advisory and assurance work. This assurance engagement is the third consecutive sustainability assurance engagement conducted for Tharisa by IBIS.

ASSURANCE STANDARD APPLIED

This assurance engagement was conducted in accordance with AccountAbility's AA1000 Assurance Standard v3 (2020) ("AA1000AS") and the AA1000 Accountability Principles Standard (2018) ("AA1000AP") and was performed to meet the AA1000AS Type II Moderate level requirements.

RESPECTIVE RESPONSIBILITIES AND IBIS' INDEPENDENCE

THARISA

Tharisa is responsible for preparing their Annual Report and for the collection and presentation of sustainability information within the report.

Tharisa is also responsible for maintaining adequate records and internal controls that support the reporting processes.

IBIS

IBIS' responsibility is to the management of Tharisa alone and in accordance with the scope of work and terms of reference agreed with Tharisa.

IBIS applies a strict independence policy and confirms its impartiality to Tharisa in delivering the assurance engagement.

ASSURANCE SCOPE

The scope of the subject matter for moderate assurance in accordance with the AA1000AS assurance standard, as detailed in the agreement with Tharisa is set out below:

SUBJECT MATTERS IN THE ASSURANCE SCOPE

Adherence to the AA1000AP (2018) AccountAbility Principles of Inclusivity, Materiality, Responsiveness, and Impact.

The following selected disclosures relating to material ESG risks and opportunities for its South African entities:

ENVIRONMENTAL:	SOCIAL:
• Total Energy Consumed (GJ) • Total Scope 1 Emissions (tCO2e) • Total Scope 2 Emissions (tCO2e) • Water use (Kl) • Total amount of waste disposed and recycled (tonnes) • Number of significant Environmental Incidents (Level 3 – 5)	• Total amount spent on corporate social investment (CSI), Socio-economic Development projects (SED) and Social and Labour Plans (SLP) • Number of grievances lodged and resolved • AWOP rate
HEALTH AND SAFETY:	
• Lost Time Injury Frequency Rate (LTIFR) • Total recordable case frequency rate (TRCFR) • Fatal injury frequency rate (FIFR) • Occupational diseases (Number of new Silicosis / TB / NIHL cases) • Total number of employees who know their HIV status • Total number of new cases of noise-induced hearing loss (NIHL)	

The following assessment criteria were used in undertaking the work:

AA1000AP (AccountAbility Principles)	Tharisa's reporting procedures
AA1000AP (2018) AccountAbility Principles criteria for Inclusivity, Materiality, Responsiveness, and Impact	The completeness, accuracy, and validity of reported data

ASSURANCE PROCEDURES PERFORMED

Our assurance methodology included:

Testing

Testing, on a sample basis, the measurement, collection, aggregation, and reporting processes in place

Interviews

Interviews with relevant data owners to understand and evaluate the processes in place for maintaining information in relation to the subject matters in the assurance scope

Inspection

Inspection and corroboration of supporting evidence received electronically to evaluate the data generation and reporting processes against the assurance criteria

Assessing

Assessing the presentation of information relevant to the scope of work in the Annual report for consistency with the assurance observations

Reporting

Reporting the assurance observations to management as they arose to provide an opportunity for corrective action prior to completion of the assurance process

ENGAGEMENT LIMITATIONS

IBIS planned and performed the work to obtain all the information and explanations believed necessary to provide a basis for the assurance conclusions for a moderate level of assurance in accordance with AA1000AS. No limitations on access to information were experienced.

The procedures performed in a moderate assurance engagement vary in nature from, and are less in extent, than for a high assurance engagement. As a result, the level of assurance obtained for a moderate assurance engagement is lower than for high assurance as per AA1000AS.

ASSURANCE CONCLUSION

In our opinion, based on the work undertaken for moderate assurance as described, we conclude that the subject matters in the scope of this assurance engagement have been prepared in accordance with the defined criteria and are free from material misstatements.

KEY OBSERVATIONS AND RECOMMENDATIONS FOR IMPROVEMENT

Based on the work set out above, and without affecting the assurance conclusion, the key observations and recommendations for improvement are set out below.

IN RELATION TO AA1000AP (2018)

Inclusivity: Tharisa has formalised its commitments, integrating them into various policies and procedures implemented throughout the organisation. The Board, supported by executive managers, has integrated these commitments into organisational-wide policies and procedures, and operational teams oversee the process of ensuring a stakeholder-inclusive approach.

It is recommended that Tharisa also establish relevant metrics to evaluate the effectiveness, outcomes, and impact of stakeholder engagement.

Materiality: Tharisa's materiality determination process has been integrated into its wider process for managing principal business risks and is overseen by senior and executive management.

It is recommended that Tharisa also articulates how material sustainability topics are evaluated and prioritised to enhance alignment with best practices.

Responsiveness: Tharisa has stakeholder response processes in place to address and communicate with stakeholders on material sustainability topics. Tharisa's response mechanisms are also appropriately tailored to the specific needs of stakeholder groups.

Consolidating these processes in a Group stakeholder communication plan will enhance consistency in responding to stakeholders across the group.

Impact: Tharisa has established processes to identify, measure, evaluate, and manage its impacts, which are integrated into its broader organisational management framework.

We recommend Tharisa to also include potential negative impacts in order to demonstrate its understanding and proactive responses to them.

IN RELATION TO THE SELECTED DISCLOSURES

It was observed that systems and processes are in place to provide source data related to the selected disclosures assessed. The increase in disclosures subjected to assurance as well as the uptake of recommendations from the previous sustainability assurance cycle is commended. Formula and data entry inconsistencies identified during the final consolidation of the sustainability information, were subsequently adjusted and IBIS is satisfied with the accuracy of the final data in the assurance scope as presented.

A comprehensive management report detailing the findings and recommendations for continued sustainability reporting improvement has been submitted to Tharisa management for consideration.

Petrus Gildenhuys

Director

IBIS Environmental Social Governance Consulting Africa (Pty) Ltd

Johannesburg, South Africa

6 December 2024

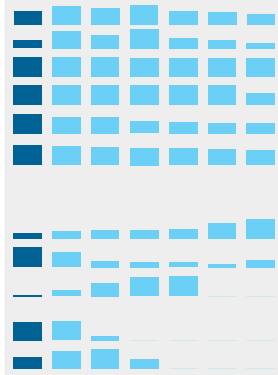
AA1000 Licensed Report 000-156/V3-D6BQR

The assurance statement provides no assurance on the maintenance and integrity of sustainability information on the website, including controls used to maintain this. These matters are the responsibility of Tharisa.

Seven-year ESG data

Human resources (Tharisa Minerals)	Number of employees including contractors Contractors HDSA HDSA (Top Management Paterson Grade F) HDSA management (Senior Management Paterson Grade E) Women Lost days due to labour action Association of Mineworkers and Construction Union (Amcu) NUM Solidarity trade union Number of grievances lodged and resolved Employee turnover
Safety	Number of fatalities Number of medical treatment cases* Number of LTIs* End-of-year LTIFR* Total recordable case frequency rate (TRCFR)* Fatal injury frequency rate (FIFR)*
Health	Number of employees and contractors voluntarily tested for HIV/Aids Number of employees who tested positive for HIV/Aids Total number of employees who know their HIV status HIV/Aids prevalence rate among employees and contractors Number of employees screened for TB/silicosis (via medical surveillance programme) Number of employees and contractors who underwent hearing tests (via medical surveillance programme) Occupational diseases (number of new silicosis cases) Total number of new cases of NIHL Number of employees who attended wellness days
Environment	Waste rock (Mm^3) Tailings volume (Mm^3) Reef mined (Mt) Total electricity consumption (MWh) Total energy consumption (GJ) Total CO_2 emissions (Scope 1) (tCO_2e) Total CO_2 emissions (Scope 2) (tCO_2e) Total CO_2 emissions (Scope 3) (tCO_2e) Cumulative rehabilitation provision (US$m) Total water consumption (m^3) Number of significant environmental incidents Diesel used (m litres) Explosives used (t) Domestic waste (t) Hazardous waste (used oil) (kℓ) Hazardous waste (other) (t) (contaminated oil and lead cupels and oil rags)
Training and development	Employees and contractors received induction Number of employees and community members on AET programmes Interns and graduates Employees awarded study assistance Total spend on training (US$m)

Unless otherwise indicated the data refers to Tharisa Minerals as Karo is still in development
Our independent external assurer has assured sustainability data used in this report (see page 95)
* Per 200 000 hours

Seven-year trend	2024	2023	2022	2021	2020	2019	2018	
	**3 051**	4 261	3 712	4 412	3 082	2 826	2 430	
	1 061	2 327	1 763	2 581	1 346	1 079	758	
	95%	94%	94%	92%	92%	91%	90%	
	100%	100%	100%	100%	100%	100%	60%	
	81%	69%	69%	50%	47%	44%	44%	
	26%	26%	24%	23%	22%	21%	20%	Appointment of black female as Group HR Director
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	18%	24%	30%	29%	32%	51%	65%	
	52%	40%	17%	14%	12%	9%	19%	
	2%	8%	19%	27%	29%	n/a	n/a	Solidarity only recognised from 2020
	29	30	7	0.00	0.00	0.00	0.00	
	175	268	309	150				
	0.00	1	0.00	0.00	0.00	0.00	0.00	Fatality occurred on 21 October 2022
	7	8	17	10	22	11	12	
	0.00	7	17	11	4	9	6	
	0.00	0.13	0.41	0.34	0.09	0.27	0.18	
	0.12	0.29	0.00	0.00	0.00	0.00	0.00	
	0.00	0.02	0.00	0.00	0.00	0.00	0.00	
	3 948	3 876	3 432	2 296	3 842	4 660	3 509	
	34 – new cases	155	425	480	504	536	392	HIV/AIDS awareness and prevention measures are available
	4 079	3 999	0.00	0.00	0.00	0.00	0.00	
	16.90%	13.94%	12.20%	13.00%	14.00%	12.00%	10.00%	
	3 475	3 094	3 014	7 608	4 715	5 784	6 768	
	7 883	7 934	8 281	5 140	4 715	5 784	6 368	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	1	3	0.00	0.00	0.00	0.00	
	364	257	756	n/a	n/a	414	400	
	15.7	14.5	19.4	17.6	16.1	11.1	10.8	
	1.17	1.15	1.37	1.39	1.25	1.19	1.26	
	4.64	4.18	5.51	5.38	4.97	4.63	4.85	
	218 996	213 390	208 750	200 256	185 807	175 329	169 480	
	2 368 781	2 241 328	2 238 622					
	133 381	123 555	135 077	98 815	82 829	84 000	2 600	
	221 187	221 926	221 275	212 272	182 343	156 200	162 800	
	5 922 062	5 197 034	5 071 106	4 926 110	2 285 059	2 235 100	2 068 500	
	23	20.0	13.2	21.1	17.3	13.1	21.8	Rehab provided in ZAR (currency fluctuations)
	2 751 505	1 776 553	3 485 152	1 591 031	1 290 346	4 082 908	4 283 399	Rise in water usage due to a change in water recording methods
	16	4	4	0.00	0.00	0.00	0.00	
	44	42	42	40	38.2	29	28	
	18 553	14 145	15 689	18 272	15 763	10 597	11 878	
	776.63	674.41	863.09	629.14	637.4	697.6	525.9	Focus on waste recycling over the reporting year
	641.44	544	458	393	358	330	83	As a result of increased contractors on site
	403.44	2 488.83	2 109.56	672	356.4	258.9	271	
	7 288	6 216	6 968	6 439	7 289	5 343	4 190	
	14	66	114	60	275	224	82	
	0.00	72	32	45	40	24	21	
	38	62	36	43	58	20	9	
	1.6	1.9	2.3	2.7	3.1	3.4	3.3	Training is charged in ZAR but reported in US$, exchange rate variations distort numbers

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