SOUTH32

SUSTAINABLE DEVELOPMENT REPORT
2023

ABOUT THIS REPORT

Sustainable Development Report 2023

This report is an overview of how our business-wide processes support our sustainability commitments, how we manage our most important sustainability topics, and the progress we have made during FY23.
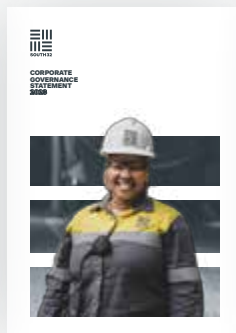
Our 2023 Annual Reporting Suite

Annual Report

Sustainability Databook

Corporate Governance Statement

Modern Slavery Statement

Tax Transparency and Payments to Governments Report

+ **You can view all the documents in our Annual Reporting Suite at *www.south32.net***

About this report

This report has been prepared by South32 Limited (ABN 84 093 732 597) for informational purposes only and is intended to assist its investors with understanding how our business-wide processes support our sustainability objectives and how we manage our key sustainability topics. South32 Limited is the ultimate holding company of the South32 group of companies.

In this report, unless otherwise stated, references to South32, the South32 Group, the Group, we, us, our and similar expressions refer to South32 Limited and its controlled entities and joint arrangements[1][2]. In addition to South32's controlled entities and joint arrangements, this report may refer to operations that are not controlled or operated by South32. Further details about the reporting boundaries of this report are set out in the Reporting Boundaries Tab contained in the Sustainability Databook available at *www.south32.net*.

This report should be read in conjunction with South32's Annual Report, Sustainability Databook, Climate Change Action Plan, together with other periodic and continuous disclosure announcements lodged with the Australian Securities Exchange, London Stock Exchange and Johannesburg Stock Exchange. These documents are available at *www.south32.net*.

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards 2021, Recommendations of the Taskforce on Climate-related Financial Disclosures and the ICMM Mining Principles and Position Statements.

Monetary amounts in this report are expressed in US dollars unless otherwise stated.

South32 engaged an independent external assurance organisation, KPMG, to provide the Directors of South32 Limited with assurance on select sustainability information, as explained in the independent assurance report in our Sustainability Databook.

Forward-looking statements and scenario analysis

This report contains forward-looking statements, including statements of current intention and expectation and statements of opinion. This includes statements regarding climate change and other environmental and energy transition scenarios. While these forward-looking statements reflect South32's expectations at the date of this report (including with respect to its strategies and plans regarding climate change), they may be affected by a range of variables which could cause actual outcomes and developments to differ materially from those expressed in such statements. These variables include but are not limited to: financial and economic conditions in various countries; fluctuations in demand, price, or currency; operating results; development progress including approvals; risks, including physical, technology and carbon emissions reductions risks; industry competition; loss of market for South32's products; legislative, fiscal, and regulatory developments; the conduct of joint venture participants and contractual counterparties, and estimates relating to cost, engineering, reserves and resources. For further information regarding South32's approach to risk, see pages 28 to 37 of our Annual Report.

South32 makes no representation, assurance or guarantee as to the accuracy, completeness or likelihood of fulfilment of any forward-looking statement, any outcomes expressed or implied in any forward-looking statement or any assumptions on which a forward-looking statement is based.

There are also inherent limitations with respect to scenario analysis which is discussed in this report, and it is difficult to predict which, if any, of the scenarios might eventuate. Scenarios do not constitute definitive outcomes or probabilities, and scenario analysis relies on assumptions that may or may not be, or prove to be, correct and may or may not eventuate. Scenarios may also be impacted by additional factors to the assumptions disclosed. Except as required by applicable laws or regulations, South32 does not undertake to publicly update or review any forward-looking statements. Past performance cannot be relied on as a guide to future performance. South32 cautions against reliance on any forward-looking statements or guidance, particularly in light of the long time horizon which this report covers and the inherent uncertainty in possible policy, market and technological developments in the future.

Information prepared by third parties

Certain information contained in this report is based on information prepared by third parties. South32 does not make any representation or warranty that this third party material is accurate, complete or up to date.

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(1) In this report, references to 'joint arrangements' mean operations that are not controlled by South32, such as joint ventures and joint operations. Joint arrangements are classified in accordance with IFRS 11 Joint Arrangements. Joint arrangements or other entities that are not operated by South32 are not included in this report unless otherwise stated.

(2) This report also refers to commodities 'we produce' and commodities in 'our portfolio', which include commodities such as bauxite, alumina, aluminium and copper that may form part of, or be produced by, entities not operated by South32. References in this report to 'our operations', or commodities 'we produce' or in 'our portfolio', should be read in this context.

Cover: An operator at Groote Eylandt Mining Company in Australia.

Right: Anindilyakwa People on Groote Eylandt in Australia's Northern Territory.

CONTENTS

MAKING A DIFFERENCE...

Our purpose

Our **purpose** is to make a difference by developing natural resources, improving people's lives now and for generations to come. We are trusted by our owners and partners to realise the potential of their resources.

Our strategy

Our purpose is underpinned by a simple yet powerful **strategy** which is focused on optimising the performance of our operations, unlocking their potential and identifying new opportunities to create value for our stakeholders.

OPTIMISE   UNLOCK   IDENTIFY

+ Learn more about Our strategy in action in our Annual Report at *www.south32.net*.

Sustainability is at the heart of our purpose and underpins the delivery of our strategy.

+ Learn more about our approach to sustainability on pages 12 to 18.

Our values

While our strategy outlines what we do to achieve our purpose, our **values** guide how we do it. Every day, our values shape the way we behave and the standards we set for ourselves and others.

Care
We care about people, the communities we're a part of and the world we depend on.

Trust
We deliver on our commitments and rely on each other to do the right thing.

Togetherness
We value difference and we openly listen and share, knowing that together we are better.

Excellence
We are courageous and challenge ourselves to be the best in what matters.

+ Learn more about our values at *www.south32.net*.

Our performance

Our **key performance indicators** provide a balanced approach to measuring our performance against the delivery of our strategy, in support of our purpose and aligned with our values.

+ Learn more about our key performance indicators in our Annual Report at *www.south32.net*.

...AND IMPROVING PEOPLE'S LIVES

Our stakeholders

We are committed to creating value for our **stakeholders**. We believe that, when done sustainably, the development of natural resources can change people's lives for the better. In delivering our strategy, we seek to create enduring social, environmental and economic value, in a way that aligns with our purpose and values.

+ **Learn more about how we are helping to improve people's lives in our Annual Report at *www.south32.net*.**

+ **Learn more about our stakeholders on page 15.**

Our people

Nothing is more important than the health, safety and wellbeing of our **people**. We are committed to working together safely, creating a values-based culture and an inclusive and diverse workforce.

+ **Learn more about our approach to health and safety, and people and culture on pages 20 to 33.**

Our people are fundamental to our success. We seek to attract, develop and retain talented people who have a shared belief in our purpose and values. Our **reward framework** aims to reward business and individual performance, as well as drive ownership behaviours.

+ **Learn more about executive reward in the Remuneration report of our Annual Report at *www.south32.net*.**

SOUTH32 IS A GLOBALLY DIVERSIFIED MINING AND METALS COMPANY

We produce commodities including bauxite, alumina, aluminium, copper, silver, lead, zinc, nickel, metallurgical coal and manganese from our operations in Australia, Southern Africa and South America. With a focus on growing our base metals exposure, we also have two development options in North America and several partnerships with junior explorers around the world.

With more than 9,000 employees and a presence in six continents, we are proud to be creating opportunities for our people and the communities in which we operate to benefit from the development of natural resources. We are transforming our business to increase our exposure to commodities critical to a low-carbon[1] future and are committed to continuously improving our sustainability performance, optimising our positive contributions and minimising adverse impacts.
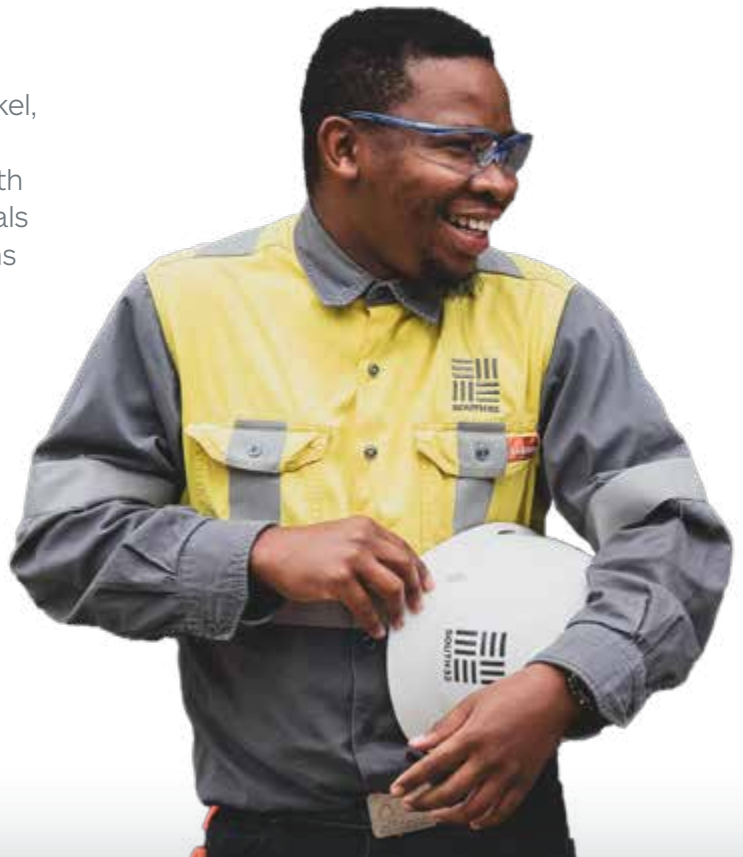
1.4
Lost Time Injury Frequency
(per million hours worked)[2]
(FY22: 2.0)
(FY21: 1.7)

20.2
Representation of women
in total workforce (per cent)
(FY22: 19.2)
(FY21: 18.4)

27.7
Social investment
(US$ million)[3]
(FY22: 31.1)
(FY21: 22.2)

1,017
Local procurement
(US$ million)[4]
(FY22: 906.9)
(FY21: 855.8)

(1) In this report we use particular terminology in relation to climate change. Definitions of the terms 'goal', 'target' and 'low-carbon' when used in the context of climate change are set out in the Glossary of terms and abbreviations on pages 118 to 121 of this report.
(2) Incidents are included where South32 controls the work location or controls the work activity. Lost time injuries include injuries that result in one or more lost work days after the day of the event.
(3) Our total social investment comprised US$24.6 million in direct investment (including Enterprise Development), US$2.5 million in administrative costs, and US$0.6 million of in-kind support.
(4) Local procurement is the direct purchase of goods and services within the local communities in which South32 operates. Suppliers are deemed as local based on their proximity to our local communities, including boundaries defined by local government areas, provinces and states.

OUR PERFORMANCE AT A GLANCE

〉 Continued to implement our multi-year Safety Improvement Program and strengthened health and safety capability and leadership.

〉 78 per cent of employees completed our annual Your Voice employee survey, our highest participation rate.

〉 Direct spend with Aboriginal and Torres Strait Islander businesses increased by 18 per cent year-on-year.

〉 Exceeded our Enterprise and Supplier Development[5] spend target by 81 per cent.

〉 Progressed near-term decarbonisation initiatives to support the delivery of our medium-term target[1][6].

〉 Participated in a pilot study on implementing the Taskforce on Nature-related Financial Disclosures Framework in the Australian context.

〉 Released our first Global Industry Standard on Tailings Management report for our 'very high' consequence facilities.

〉 This year we have also published five new or updated Approach documents for our material sustainability topics.

16,143
Water withdrawn at operations in areas of baseline water stress (Megalitres)

(FY22: 20,184)
(FY21: 22,421)

333
Land rehabilitated during the year (hectares)

(FY22: 276)
(FY21: 251)

13
Tailings waste recycled or reused (per cent)[7]

(FY22: 8)
(FY21: 6)

21.0
Operational greenhouse gas emissions (Million tonnes CO_2-e)[8]

(FY22: 21.0)
(FY21: 20.7)[9]

+ **Learn more about our sustainability performance in the 2023 Sustainability Databook at _www.south32.net_.**

(5) Enterprise and Supplier Development (ESD) consists of two activities, Enterprise Development and Supplier Development. The Enterprise Development component, which was US$5.2 million in FY23, is captured in both the ESD total and the social investment total.
(6) Our medium-term target is to reduce our operational greenhouse gas emissions by 50 per cent from FY21 levels by 2035. The FY21 baseline has been adjusted to exclude emissions from South Africa Energy Coal (SAEC) and Tasmanian Electro Metallurgical Company (TEMCO), which were divested in FY21.
(7) In FY23, our calculation was revised to include tailings reused as well as tailings recycled. Numbers for prior financial years reflect tailings recycled only.
(8) Includes Scope 1 and Scope 2 greenhouse gas (GHG) emissions.
(9) The FY21 baseline has been adjusted to exclude emissions from SAEC and TEMCO, which were divested in FY21.

WORKING WITH INDIGENOUS, TRADITIONAL AND TRIBAL PEOPLES

We aim to operate with the support of Indigenous, Traditional and Tribal Peoples communities and work together to achieve mutually beneficial outcomes.

AMBLER METALS
Copper, Lead, Gold, Silver and Zinc

VANCOUVER

HERMOSA
Zinc, Lead, Silver and Manganese

CERRO MATOSO
Nickel

BRAZIL ALUMINA
Bauxite

BRAZIL ALUMINA
Alumina

SIERRA GORDA
Copper, Molybdenum and Gold

BRAZIL ALUMINIUM
Aluminium

Hermosa

The Hermosa Project has initiated engagement with nine Tribes in the Southwest region. The purpose of the initial engagements is to better understand historical affiliation to the land in and around the Hermosa Project. The Tohono O'Odham Nation, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, the Ak-Chin Indian Community, Pueblo of Zuni, the Hopi Tribe, Mescalero Apache Tribe, White Mountain Apache Tribe, and Pascua-Yaqui Tribe have historical affiliation to the Hermosa project area.

Cerro Matoso

There are 25 local communities surrounding Cerro Matoso including 11 Zenú Indigenous organisations and three Afro-Colombian communities.

● South32-operated operation   ● Non-operated operation   ● Development option   ● Exploration program   ● Office

Ambler Metals

Ambler Metals has a long-term agreement with NANA Regional Corporation, an Alaska Native Corporation owned by more than 14,500 Inupiaq shareholders.

South Africa and Mozambique

Many host communities have strong connections to the land with unique tangible and intangible cultural heritage. Traditional groups maintain distinct local customs, particularly near our operations in the Northern Cape province where local customs, traditions and living culture are evident.

Australia

Perth Head Office
Whadjuk People

Cannington
Mitakoodi and Yulluna Peoples
Bindal and Wulgurukaba Peoples

Groote Eylandt Mining Company
Anindilyakwa People

Illawarra Metallurgical Coal
70+ Registered Aboriginal People groups – region is the Dharawal People

Worsley Alumina
Wilmen, Wadandi, Ganeang and Pindjareb Peoples

LONDON

SINGAPORE

CANNINGTON
Silver, Lead and Zinc

AUSTRALIA MANGANESE
Manganese ore

JOHANNESBURG

SOUTH AFRICA MANGANESE
Manganese ore

MOZAL ALUMINIUM
Aluminium

PERTH HEAD OFFICE

WORSLEY ALUMINA
Alumina

HILLSIDE ALUMINIUM
Aluminium

ILLAWARRA METALLURGICAL COAL
Metallurgical coal
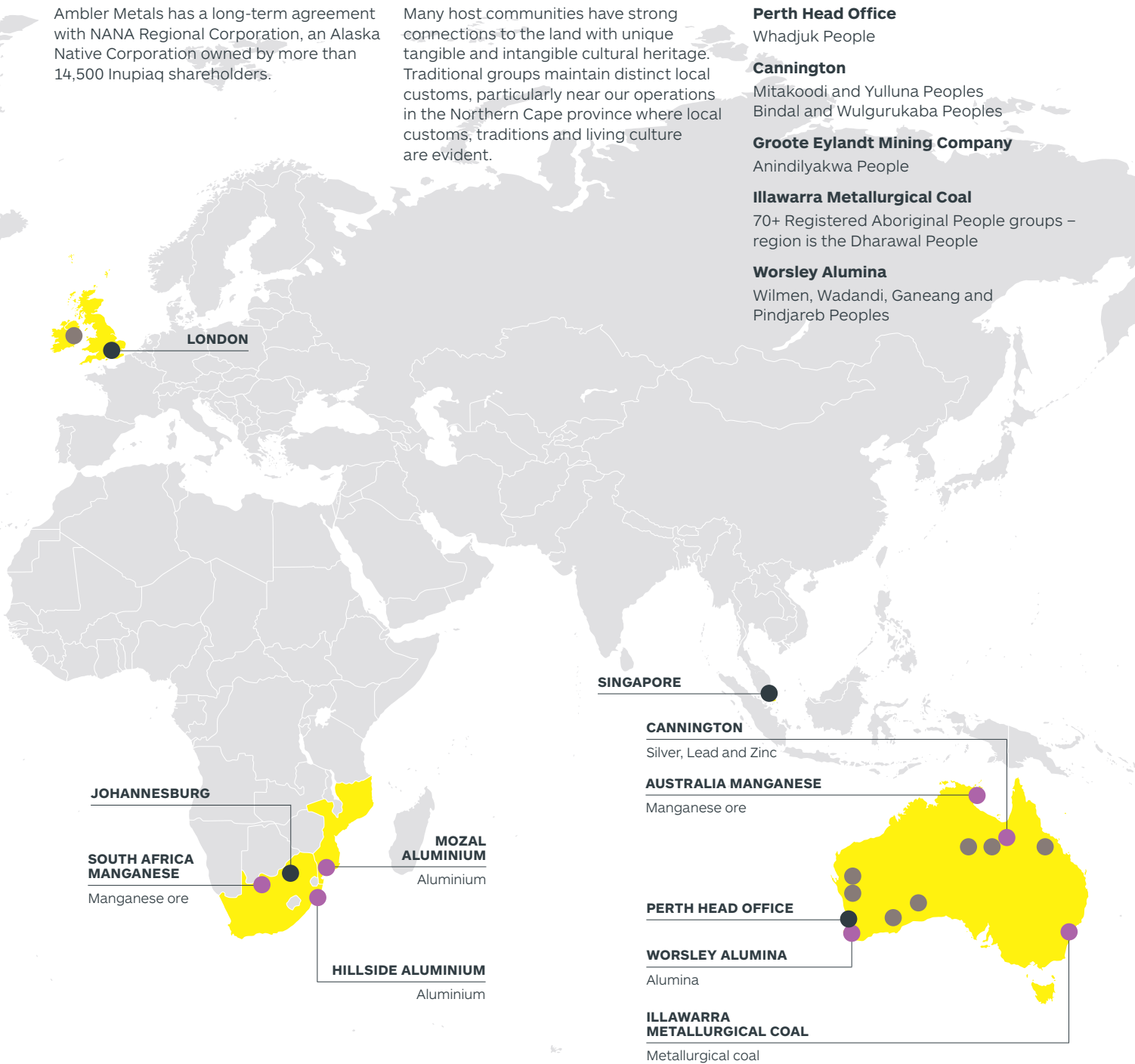
CREATING LONG-TERM VALUE

As a global mining and metals company, we create value by producing commodities that are used in many aspects of modern life and many of these commodities will play a critical role in a low-carbon future. Our operations, development options and exploration programs are diversified by commodity and geography. We work to minimise the impact of our activities and aim to create enduring value for our stakeholders, at each stage of the mining lifecycle.

The resources we rely on

People and expertise
Our global workforce is made up of both employees and contractors and is our most important resource, providing the skills, experience and technical expertise required to run our business.

Natural resources
The resources and reserves we access are the primary inputs for our business. Other natural resources such as water and energy are also important for the operation of our facilities, and we require access to land to conduct our business activities.

Physical assets
We have a suite of operations including open-cut and underground mines, refineries, smelters and associated infrastructure. We procure equipment from suppliers globally to support our operations, development options and exploration programs.

Finance
Our shareholders and lenders provide access to financial capital, which we put to work by operating our existing facilities and funding our pipeline of development options and exploration programs.

Relationships
Trust and transparency are essential to the way we operate. We seek to build trust in the communities where we operate to help realise the potential of their resources, and we work with our suppliers and customers to apply responsible business practices throughout our value chain.

What we do
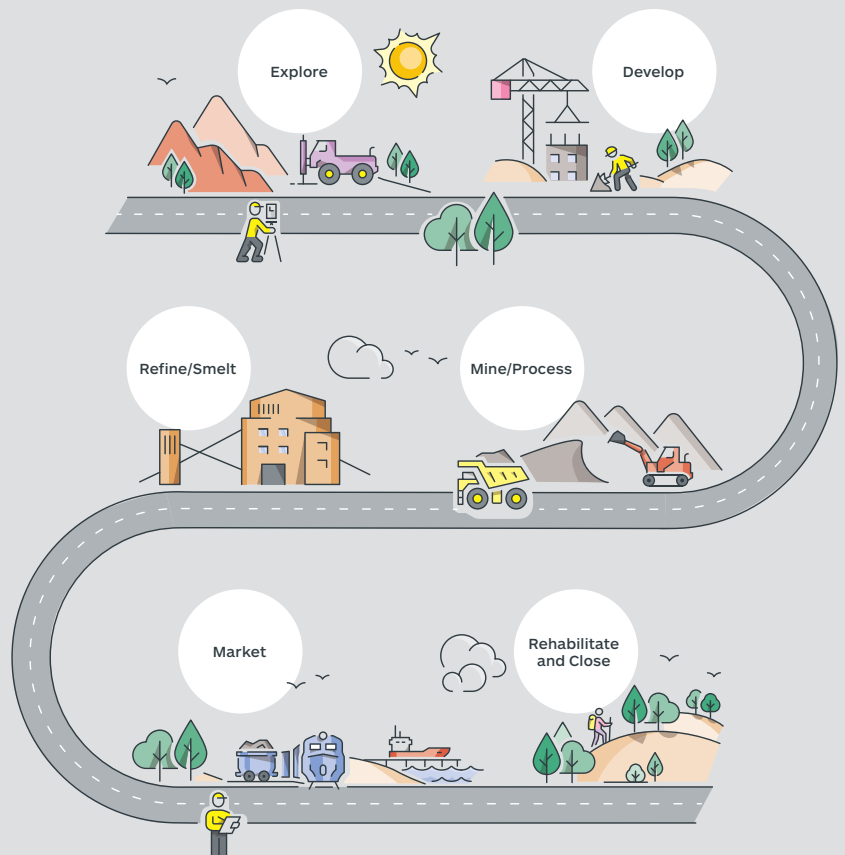
Explore

We have a portfolio of more than 25 greenfield exploration options across the world to discover deposits to underpin our next generation of mines, with a focus on commodities critical to a low-carbon future. Wherever we explore, we work to minimise the footprint of our activities through the use of technology and well-designed programs.

Develop

Our development options have the potential to provide commodities which support the transition to a low-carbon world and we have a pipeline of options in feasibility, pre-feasibility and other study phases. As we advance these options we are looking to reshape the way we would mine at future projects including the Hermosa project to deliver transformational safety, productivity and emissions outcomes.

Mine/Process

We mine and process bauxite, copper, silver, lead, zinc, nickel, metallurgical coal and manganese. Our most important commitment at all of our sites is the health, safety and wellbeing of our employees, contractors, visitors and communities. We listen to our stakeholders and work together with the aim of creating shared value.

Refine/Smelt

We refine bauxite to produce alumina, we smelt alumina to produce aluminium, and we smelt nickel ore to produce ferronickel. We are also executing decarbonisation initiatives to support delivery of our operational decarbonisation target, focusing on our highest emitting refineries and smelters.

Market

We generate revenue from the sale of our commodities to a global customer base and purchase raw materials from global markets. We also analyse commodities and their markets to inform our strategic business planning and investment decisions. We are building meaningful partnerships with key customers and suppliers to support and co-design emissions reduction programs in the value chain.

Rehabilitate and Close

From exploration through to closure and beyond, we seek to minimise our adverse impacts on the surrounding communities and environments. We undertake progressive rehabilitation where possible, our closure plans are informed by the aspirations and expectations of our host communities and countries, and we aspire to leave a positive legacy.

The outcomes we create

We are committed to creating value for our stakeholders, including our people, communities, suppliers, customers, governments and the financial community including our shareholders.

+ Learn more about our stakeholders and impact in our Annual Report at *www.south32.net*.

REALISING THE POTENTIAL OF RESOURCES

In a world of rapidly evolving stakeholder expectations, and in accordance with our purpose and values, we aim to develop natural resources safely, sustainably and with care.

I've always believed that, when done sustainably, mining can make a real difference in people's lives.

Whether it's through creating jobs, investing in communities, protecting biodiversity or addressing climate change, sustainability is front of mind in everything we do. In fact, it's at the heart of our purpose and underpins the delivery of our strategy.

Our approach to sustainability comprises five interconnected pillars which focus on areas that are material to our business and stakeholders. It supports our Sustainability Policy and is guided by various international standards and initiatives.

Our first pillar is 'Protecting and respecting our people' and nothing is more important than this. The loss of two of our colleagues, Mr Cristovão Alberto Tonela and Mr Alfredo Francisco Domingos João, who were fatally injured in an incident at Mozal Aluminium in November 2022, has had a devastating impact across our business. Our deepest sympathies remain with their families and colleagues. We have been learning from this tragic event and have taken various actions, including implementing additional controls at our aluminium smelters and sharing key learnings across our business and our industry.

Our Lost Time Injury Frequency (LTIF) decreased by 30 per cent compared to the FY22 baseline and our Total Recordable Injury Frequency (TRIF) increased by 11 per cent compared to the FY22 baseline. LTIF is a measure of serious injuries whereas TRIF is a measure of all injuries, so although we saw an increase in all injury events, the severity of events decreased. Despite this, we recognise that we must continue to improve our safety performance.

We are continuing to implement our Group-wide Safety Improvement Program, a multi-year global program of work designed with the aim of enhancing our safety culture and achieving a step change in our safety performance.

Every day, we ask our people to reflect on whether they can guarantee both their safety and that of their colleagues when executing their role. If the answer is no, then the challenge is to stop work and ask what would need to be done differently to provide that guarantee. This is articulated as our 'safety guarantee' and it is used to create a sense of chronic unease, reduce complacency, and assist to reduce risk tolerance. We are working to further embed our 'safety guarantee' across our business.

"

Climate change and greenhouse gas emissions continues to be an area of significant interest for our stakeholders and we know we have an important role to play."

Of course, creating a safe work environment goes beyond just physical safety, and during the year we progressed initiatives to create a more inclusive workplace, in which any form of inappropriate conduct is not tolerated. We know that an inclusive and diverse workforce produces better outcomes and we are working to instil a culture that supports a positive employee experience and a safe and productive workplace.

Inclusiveness extends beyond the workplace and into communities. In Australia, we support an Indigenous Voice to Parliament as a key element of the Uluru Statement from the Heart. With a referendum on an Indigenous Voice to Parliament taking place in

October 2023, we have created opportunities for discussion, learning and debate, including with Indigenous Australians, so that when our people make a decision on a Voice, they do so in an informed way.

As a significant employer and investor in Australia, we recognise the positive impact we can have on reconciliation. Our next Innovate Reconciliation Action Plan, which we plan to release by the end of 2023, will include more ambitious goals and targets for Aboriginal and Torres Strait Islander employment and procurement.

We truly value our relationships with local communities and design our social investment program with input from our key stakeholders to reflect

their aspirations and needs. In FY23 we invested US$27.7 million in community programs across Australia, Southern Africa and the Americas.

The economic value of our presence in communities is an important part of our societal contribution. As part of the evolution of our approach to social performance we developed economic development plans, which include local employment and procurement targets, at all operations for the first time in FY23.

While we work to optimise our positive contributions, we also seek to minimise our adverse impacts and work hard to be responsible stewards of the environment.

We have identified water-related material risks at five operations and have set contextual water targets for each, with two targets achieved and the others remaining on track. We also have four operations in areas defined as having baseline water stress and cumulatively across these four operations, we achieved more than two per cent improvement in water use efficiency in FY23.

We understand the importance of protecting biodiversity, and this year we have worked in partnership with others to pilot the adoption of the emerging Taskforce on Nature-related Financial Disclosures (TNFD) Framework.

We are also committed to implementing the Global Industry Standard on Tailings Management (GISTM) at all South32-operated tailings storage facilities, and recently published our first GISTM report for our 'very high' consequence facilities, which are only at Worsley Alumina.

Tailings management can be an important part of post mining activities. With some of our operations having less than 10 years before their expected closure date, detailed closure engineering studies have begun and we are engaging with host communities and governments on their post mining future.

Climate change and greenhouse gas (GHG) emissions continues to be an area of significant interest for our stakeholders. It is unequivocal that human activity is causing climate change and we are seeing the impacts on ecosystems, biodiversity, and communities around the world.

We know we have an important role to play in responding to climate change. Our inaugural Climate Change Action Plan (Plan), published in September 2022, outlines our approach to climate change and we have made progress against key elements of the Plan during FY23.

We are reshaping our portfolio toward the commodities that are critical in the transition to a low-carbon world and our commodity mix today is very different from when South32 was first established. We have added copper and grown our share of low-carbon aluminium production. Our next phase of growth is expected to come from our development options in North America and we continue to invest to discover deposits to underpin our next generation of mines. This year, we also updated our 1.5°C scenario which we use to stress-test the resilience of our portfolio under a rapid global transition.

Our reported Scope 1 and Scope 2 GHG emissions for FY23 were 21.0 Mt CO_2-e, a 0.2 per cent increase from FY22. With over 90 per cent of our operational GHG emissions generated by four operations, our decarbonisation initiatives are primarily focused on these operations.

We commenced the conversion of the first coal-fired boiler to natural gas at Worsley Alumina, and commenced detailed design and execution planning for a commercial scale trial of CSIRO ventilation air methane technology at Illawarra Metallurgical Coal.

For Hillside Aluminium, while our studies have confirmed the challenges associated with developing renewable and low-carbon energy sources in South Africa, we continue to investigate a range of potential solutions. We are studying options to acquire energy attributes to reduce the GHG intensity of its product in the near-term, while we pursue other low-carbon energy solutions for the longer term. At Mozal Aluminium, we are working to extend the supply of hydro-electric power beyond 2026 and continue to investigate additional emissions reduction projects and technologies.

In FY23 we set a new goal of net zero Scope 3 GHG emissions by 2050. This recognises that we have a critical role to play in contributing to the decarbonisation of the value chain and reflects our commitment to collaborating with our suppliers, customers and other value chain partners.

As I reflect on the last 12 months, there is no doubt that societal expectations of mining companies are rapidly evolving, and I expect this to continue and even accelerate in the future. This is driving changes to the sustainability landscape that we operate within, with new sustainability reporting standards emerging and new nature-related international agreements being put in place.

We are responding to this dynamic environment by continuing to increase transparency of our activities. This Report, and its associated Sustainability Databook, contain several new or enhanced disclosures on our performance. This year we have also published five new or updated approaches for our material sustainability topics.

We also acknowledge that there is more to be done. We intend to publish new or updated approaches for additional material sustainability topics in FY24, and are building our understanding of the TNFD Framework and the International Sustainability Standards Board inaugural standards.

We are committed to continuously improving our sustainability performance, and to reporting transparently on our progress.

Graham Kerr
Chief Executive Officer

DEVELOPING NATURAL RESOURCES TO CHANGE LIVES FOR THE BETTER

Our purpose is at the heart of who we are. Every day, in support of our purpose and underpinned by our approach to sustainability, our people work to deliver our strategy for the benefit of our stakeholders.

Our **purpose** is to make a difference by developing natural resources, improving people's lives now and for generations to come. We are trusted by our owners and partners to realise the potential of their resources.

Our purpose is underpinned by a simple yet powerful **strategy**.

We **optimise** our business by working safely, minimising our impact, consistently delivering stable and predictable performance, and continually improving our competitiveness.

We **unlock** the full value of our business through our people, innovation, projects and technology.

We **identify** and pursue opportunities to sustainably reshape our business for the future, and create enduring social, environmental and economic value.

Sustainability is at the heart of our purpose and underpins the delivery of our strategy. Our approach to sustainability comprises five interconnected pillars which focus on areas that are material to our business and stakeholders.

Protecting and respecting our people

Delivering value to society

Operating ethically and responsibly

Managing our environmental impact

Addressing climate change

While our business has many positive impacts, we also recognise that our business activities have the potential to cause adverse impacts. We are committed to continuously improving our sustainability performance, optimising our positive contributions and minimising adverse impacts.

Protecting and respecting our people

Nothing is more important than the health, safety and wellbeing of our people. We are committed to working together safely, creating a values-based culture and an inclusive and diverse workforce.

Material topics: Health and safety | People and culture

+ **Learn more about how we are protecting and respecting our people on page 19.**

Delivering value to society

We believe that, when done sustainably, the development of natural resources can change people's lives for the better. In delivering our strategy, we seek to create enduring social, environmental and economic value, in a way that aligns with our purpose and values. We believe trust and transparency are essential to the way we operate, we listen to our stakeholders to understand what's important to them and work together with the aim of creating shared value.

Material topics: Partnering with communities | Our societal contribution

+ **Learn more about how are delivering value to society on page 34.**

Operating ethically and responsibly

Operating ethically and responsibly is essential to fulfilling our purpose, delivering on our strategy and achieving our aspiration of building strong, mutually beneficial and trusting relationships with our stakeholders. We respect human rights and apply responsible business practices across our value chain.

Material topics: Ethics and business integrity | Human rights | Responsible value chain

+ **Learn more about how we are operating ethically and responsibly on page 48.**

Managing our environmental impact

We are committed to protecting natural resources including water, biodiversity, air and surrounding ecosystems. We work hard to be responsible stewards of the environment and aim to safely manage tailings, reduce waste, rehabilitate land disturbed by our activities and leave a positive legacy in host communities.

Material topics: Water | Biodiversity | Tailings | Waste, contamination and other emissions | Closure

+ **Learn more about how we are managing our environmental impact on page 62.**

Addressing climate change

Our approach to climate change is integrated with our strategy and designed to protect and unlock long-term value, build operational resilience, and enhance our competitiveness in a low-carbon world. We are responding to the risks and opportunities of climate change by producing commodities that support the transition to a low-carbon world, in a way that seeks to minimise our impact.

Material topic: Climate change and greenhouse gas emissions

+ **Learn more about how we are addressing climate change on page 87.**

Our commodities are used in many aspects of modern life and we are actively reshaping our portfolio to increase our exposure to the commodities critical to a low-carbon future. Key market sectors where our commodities have an important role to play include construction, energy and renewables, automotive and consumer goods. We aim to develop natural resources sustainably and with care, to create value and opportunities for people today and in the future.

While our business has many positive impacts, we also recognise that our activities have the potential to cause adverse impacts. We are committed to continuously improving our sustainability performance, optimising our positive contributions and minimising adverse impacts by protecting and respecting our people, delivering value to society, operating ethically and responsibly, managing our environmental impact and taking steps to address climate change.

Our Sustainability Policy reaffirms our commitment to sustainable development and outlines our commitment to governance and transparency on sustainability matters. Approved by our Board, our Sustainability Policy is guided by international standards and initiatives, including the ICMM Mining Principles, the United Nations Global Compact (UNGC) Ten Principles, the Global Reporting Initiative (GRI), the Taskforce on Climate-related Financial Disclosures (TCFD), and the United Nations Sustainable Development Goals (UN SDGs).

Our Sustainability Policy is supported by a series of topic specific 'Our Approach' documents which outline topic commitments, principles to manage the commitments and our management approach related to each topic. This year we have developed Our Approach to Indigenous, Traditional and Tribal Peoples Engagement, updated Our Approach to Human Rights (published in 2021) and updated Our Approach to Tailings Management (published in 2019) in alignment with the Global Industry Standard on Tailings Management (GISTM) requirements. We also updated Our Approach to Water Stewardship (published in 2019) and developed an updated global Our Approach to Cultural Heritage. These documents are supported by internal standards and procedures, and we are working on developing other approach documents to cover additional material sustainability topics.

Our approach to sustainability contributes to the UN SDGs and we work with stakeholders to develop and implement actions that contribute to sustainable development. We have disclosed a detailed alignment of South32's contribution to the UN SDGs and their associated targets. Out of the 169 UN SDG targets, we have identified 19 primary UN SDG targets which our activities contribute to.

+ **Learn more about the UN SDGs that South32 contributes to in the 2023 Sustainability Databook at www.south32.net.**

STAKEHOLDER ENGAGEMENT

Customers
We engage to understand product demands and customer expectations

Our people
We engage with our workforce as a fundamental part of achieving our business strategy

Financial community
We engage on financial and sustainability performance, strategy and enterprise value

Local communities
We engage to understand community needs and expectations to develop strong and mutually beneficial relationships

NGOs
We engage to promote shared understanding and learning on environmental, social and human rights issues

Indigenous, Traditional and Tribal Peoples
We engage and work collaboratively to preserve cultural heritage and advance opportunities for economic participation and social inclusion

Suppliers and contractors
We engage on the responsible and reliable procurement of goods and services

Civil society groups
We engage to achieve shared goals with societal benefits

Governments and regulators
We engage to understand policy and regulatory impacts on our business

Industry peers and associations
We engage to understand, learn and contribute to industry best practice

Stakeholders and collaboration

Respectful relationships with our stakeholders underpin our goal of creating and protecting social, economic, and environmental value. The expectations of stakeholders and society more broadly continue to evolve in response to global challenges that affect current and future generations – including climate change, wars and conflict, human rights violations, water scarcity, amongst others.

In delivering our strategy, we seek to create enduring social, environmental and economic value, in a way that aligns with our purpose and values. We work to build positive, meaningful and respectful relationships, guided by the ICMM Mining Principles 9 – Social Performance and 10 – Stakeholder Engagement, as well as our Code of Business Conduct (Code) and internal standards.

We have identified our main stakeholders – these being individuals or groups who may be affected by or interested in our decision-making and activities – and developed stakeholder engagement plans at an operational and country level to help build strong and mutually beneficial relationships. Our stakeholder engagement plans are updated annually and are informed by our local context and stakeholder feedback.

Engagement with stakeholders can take many forms and is critical in helping us understand their interests, expectations, and concerns. We use the outcomes from stakeholder engagement to help inform and guide our sustainability efforts. Our engagement with stakeholders varies depending on the location of the operation and the nature and impact of South32 activities on the stakeholder, in accordance with our stakeholder engagement plans.

We seek to understand stakeholder concerns and facilitate engagement in a way that considers potential barriers such as language or cultural differences. This is especially important when engaging with minorities and vulnerable groups.

+ **Learn more about how we engage with stakeholders in the 2023 Sustainability Databook at _www.south32.net_.**

Materiality assessment

We undertake annual sustainability materiality assessments to proactively anticipate, identify and assess the sustainability topics that matter most to our business and stakeholders. Our materiality assessments are guided by the GRI Sustainability Reporting Standards 2021 and facilitated by an independent external consultant, who coordinates the desktop research and stakeholder engagement inputs. We utilise internal and external sources for our research and directly engage external stakeholders in our materiality assessments every alternate year.

In FY23, our materiality assessment consisted of desktop research and internal stakeholder engagement to identify the actual and potential, adverse and positive impacts across our activities and business relationships. This year we continued to consider both the impact of our business and value chain on the external environment, economy, and society (often referred to as 'impact materiality'); and the impact of the external environment, economy, and society on our enterprise value (often referred to as 'financial materiality').

The desktop research considered a range of internal and external inputs, informing both impact and financial materiality, including:

– Sustainability reporting standards and frameworks;

– Investors and analysts' feedback;

– Community engagement feedback;

– Employee survey results;

– Peer companies' sustainability disclosures;

– Media reports;

– Environmental, social and governance (ESG) rating agency reports;

– ESG indices and benchmark;

– Enterprise risk reports; and

– Industry publications.

Through the desktop research, our impacts were considered and relevant sustainability topics identified. A frequency analysis was used to undertake an initial prioritisation of sustainability topics, considering their significance to our business and stakeholders. The desktop research was supplemented by internal stakeholder engagement which considered the relevance and significance of topics to South32 from an impact, risk, and opportunity perspective.

Internal stakeholder engagement for these purposes included:

– A survey sent to 45 of South32's Senior Leadership Team members to provide feedback on their understanding of South32's material sustainability risks and opportunities;

– Ten interviews with select South32 Board and Lead Team members on the material sustainability topics they encounter in their roles, their views on how these have changed in recent years, and how they may develop moving forward; and

– A validation workshop, which provided an opportunity for subject matter experts across various functions at South32, including Investor Relations, Technical Stewardship, Risk and Assurance and External Affairs, to discuss and analyse the output from the preceding phases and test whether any topics were overlooked.

During the validation workshop, a final prioritised list of South32's material sustainability topics was developed, building on the initial prioritisation from the desktop research phase. The final list of material sustainability topics were presented to and considered by the South32 Board, with the final prioritisation shown below.

FY23 Prioritised list of our material sustainability topics

Highest priority	> Health and safety > Climate change and GHG emissions > Partnering with communities
High priority	> Human rights > Responsible value chain > Water > Biodiversity > Ethics and business integrity > People and culture
Medium priority	> Our societal contribution > Waste, contamination, and other emissions > Tailings > Closure

The results of the materiality assessment are used to inform the content of this report and to inform and strengthen our management of sustainability topics. Our material sustainability topics remained largely consistent compared to FY22, with a few changes in the grouping of our topics. This year closure and tailings were considered as separate material sustainability topics due to their increased prominence. The separation of these topics has allowed more in-depth content to be presented in this report aligned with new standards such as the GISTM and growing stakeholder expectations.

When compared to last year, Climate change and GHG emissions, and Health and safety remained the most significant material topics in 2023, with the addition of Partnering with communities into the highest priority category this year. We also saw the priority of two sustainability topics grow this year, namely Responsible value chain and People and culture, with a focus on attracting, developing and retaining talent. While some material sustainability topics are in higher priority bands than others, we consider all these topics as material to our business.

Risk management

Risk management is fundamental to maximising the value of our business and informing our strategic direction. Our System of Risk Management aligns with the principles of the International Standard for Risk Management AS/NZS ISO31000:2018. It applies to all employees, Directors, contractors, and subsidiaries.

We identify, evaluate and manage sustainability risks in line with our risk management framework. Our risks are regularly assessed and managed at both a company-wide strategic level and at a tactical level for operation, project and function risks.

Our System of Risk Management is based on the Three Lines Model, which describes how key organisational roles work together to facilitate strong risk management and assurance.

Our material risks are those which can materially impact our ability to achieve our purpose, strategy and business plans. The effective management of our material risks is routinely assessed by our Lead Team. These risks are reviewed by the Risk and Audit Committee and the Sustainability Committee, which assist the Board to carry out its role of overseeing our risk management and assurance practices.

Our strategic risks are risks which can affect our ability to achieve our strategic objectives. Several of our strategic risks relate to sustainability topics, including climate change and environment; major external events or natural catastrophes; security of supply chain logistics and critical goods and services; shaping our culture and managing diverse talent and evolving societal expectations. Read more about our strategic risks and our response in the 2023 Annual Report at *www.south32.net*.

We report transparent real-time risk data through our risk management tool, Global360. This software connects data relating to the management of our risks, events, hazards and assurance actions. Aside from helping us manage our operations, projects and functions, reliable data on material risks contributes towards the monitoring and management of our strategic risks. This provides insight into trends and emerging themes that can trigger a review of our business plans or inform a change in strategic direction.

+ **Read more about risk management in our 2023 Annual Report at *www.south32.net*.**

Corporate Governance

Good governance is essential to the way we work – to our actions, decisions, communications, and behaviours. Our Corporate Governance Statement sets out our corporate governance policies and practices and is available at *www.south32.net*.

Our Board continues to acknowledge the unique relationship between resource companies and the communities in which we operate. In doing so the Board has regard to the evolving and expanding societal trends and expectations, and the requirements that we act lawfully, ethically and responsibly. The Board is supported to maintain effective governance, accountability and oversight of sustainability management, performance, assurance and reporting practices through its Sustainability Committee. The Committee is responsible for overseeing the Group's approach to identifying and managing material sustainability-related risks and opportunities including safety, health (including occupational health, hygiene, mental health and well-being), environment and social performance (including community, human rights and cultural heritage), business ethics and climate change; and advising the Risk and Audit Committee on material sustainability-related risks. The Committee also monitors and reviews the Group's performance having regard to the sustainability consequences of decisions and actions, including impacts on employees, communities, Indigenous, Traditional and Tribal Peoples, the natural environment, third parties and the Group's reputation. Our Board is also assisted by the Risk and Audit Committee and Remuneration Committee, as appropriate.

The Sustainability Committee reviews the Sustainable Development Report and Sustainability Databook and recommends it to the Board for approval, making recommendations on specific actions or decisions the Board should consider. It also reviews and approves new and material changes to public positions on key sustainability topics.

The Board delegates authority for the day-to-day management of the Group to the CEO, who is accountable for the sustainability performance of our business. Working under the guidance and supervision of our CEO, our Lead Team's role is to progress the Group's strategy in a way that aligns with our purpose, values, Code, the risk appetite set by our Board and our Sustainability Policy. Within our Lead Team, our Chief Legal and External Affairs Officer is responsible for Sustainability Strategy and reporting. Our CEO and Lead Team regularly report to our Board, in a spirit of openness and trust, on progress towards, and matters material to our strategy, performance (including safety, operational, financial and sustainability performance), issues relating to our people and culture, risk management and assurance, and compliance with our Code.

Our Sustainability Committee Chair reports to the Board on Committee activities and material matters arising out of Committee meetings and considers if any matters arising out of meetings should be advised to any other Committee. Key activities of the Committee this year include, amongst others, monitoring the progress of the Safety Improvement Program, including in relation to the fatalities at Mozal Aluminium in November 2022; reviewing climate change positions and progress; and recommending the outcome and Key Performance Indicators for the sustainability component of our Business Scorecard, which impacts the Short-Term Incentive of our executive key management personnel.

For more information about our Board, Sustainability Committee and the Risk and Audit Committee, including activities undertaken in FY23, refer to *www.south32.net* for the:

– 2023 Corporate Governance Statement;
– Board Charter;
– Sustainability Committee Terms of Reference; and
– Risk and Audit Committee Terms of Reference.

Sustainability reporting

We are committed to transparently reporting our sustainability performance, in line with our Sustainability Policy and the ICMM Mining Principle 1 – Ethical Business. We welcome stakeholder feedback to help us to continue to improve our reporting.

Transparency in disclosing our sustainability performance and progress is essential to build trust and demonstrate delivery on our commitments. This report explains how our business-wide processes support our sustainability commitments, how we manage our most important sustainability topics, and the progress we have made during FY23. We prepare this report in accordance with the GRI Standards 2021, Recommendations of the Taskforce on Climate-related Financial Disclosures and the ICMM Mining Principles and Position Statements. In our 2023 Sustainability Databook we also demonstrate how we are pursuing alignment with the International Financial Reporting Standards (IFRS) Foundation's Sustainability Accounting Standards Board (SASB) Standard for the Metals and Mining industry. Our core TCFD metrics for assessing and managing climate-related risks and opportunities associated with our emissions reduction target and goal, are Scope 1, 2 and 3 GHG emissions (described in the Climate change and greenhouse gas emissions section of this report). The TCFD also encourages organisations to include metrics on climate-related topics such as water, energy, land use and waste management where relevant and applicable. We monitor and measure a range of performance metrics, as shown in our 2023 Sustainability Databook, available at _www.south32.net_.

Our FY23 sustainability performance data, sustainability reporting boundaries, GRI Index, TCFD Index, SASB Index and the ICMM Mining Principles Index, are contained in our 2023 Sustainability Databook at _www.south32.net_.

In accordance with our ICMM member requirements, we are implementing the ICMM Performance Expectations (PEs). During FY23, we updated self-assessments against the PEs at Worsley Alumina, Groote Eylandt Mining Company (GEMCO), and Illawarra Metallurgical Coal (IMC) operations, which were also subject to third-party validation for the first time. The outcomes of our updated FY23 self-assessments rated all operations as being in conformance with greater than 86 per cent of applicable PEs, with the remaining PEs being partially met. South32 do not have any PEs assessed as not met. In accordance with the ICMM assurance requirements, we have developed prioritisation criteria to identify operations subject to third party validation. We continue to embed the ICMM PEs throughout our operations, with third-party validation over our other operations self-assessments planned to continue in FY24 and FY25 in accordance with the three-year update cycle defined by the ICMM. Read more about the outcomes of our updated ICMM PE self-assessments, our prioritisation criteria and outcomes of third-party validation for Worsley Alumina, GEMCO, and IMC, in our 2023 Sustainability Databook at _www.south32.net_.

We support global efforts to align sustainability reporting standards. During the financial year, we participated in the ICMM Mining Standards Working Group and the ICMM ESG Reporting Working Group and provided feedback as part of the public consultation period for the Exposure Drafts IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures, developed by the International Sustainability Standards Board (ISSB). This year we undertook a readiness assessment against the IFRS S1 and S2 Exposure Drafts to identify improvement opportunities for our sustainability reporting processes as we prepare for these new standards. South32 has representation on the GRI Mining Sector Standard Working Group,

appointed by the Global Sustainability Standards Board to develop the new GRI Mining Sector Standard. We provided feedback during the public consultation period for the Exposure Draft of the GRI Mining Sector Standard. In FY23, we also participated in a pilot study and provided feedback on the learnings and barriers to adopting and implementing the Taskforce on Nature-related Financial Disclosures (TNFD) Framework in the Australian context. We acknowledge the Australian Department of Climate Change, Energy, the Environment and Water for sponsoring the pilot study, which was facilitated by EY. For more information on TNFD see page 72.

As a UNGC member, we continued support for the UNGC and issued our 2022 Communication on Progress (CoP). In FY23, we plan to partake in the new CoP Questionnaire designed to help participating companies monitor performance across the Ten Principles. The CoP questionnaire is expected to be submitted later this calendar year.

Each financial year we produce one Modern Slavery Statement that responds to both the Australian _Modern Slavery Act 2018_ (Cth) and the United Kingdom's _Modern Slavery Act 2015_. All of our published statements are available at _www.south32.net_.

In line with our ICMM membership requirements, we obtain independent assurance over selected sustainability information. The Sustainability Committee reviews our external assurance provider, KPMG's, sustainability assurance scope and endorses it to the Risk and Audit Committee.

Read more about sustainability assurance, including the assurance scope, level and standards applied in the FY23 Independent Assurance Report in our 2023 Sustainability Databook at _www.south32.net_.

PROTECTING AND RESPECTING OUR PEOPLE

Nothing is more important than the health, safety and wellbeing of our people. We are committed to working together safely, creating a values-based culture and an inclusive and diverse workforce.

IN THIS SECTION

HEALTH AND SAFETY

Nothing is more important than the health, safety and wellbeing of our people. We are committed to working together safely, and continuously improving how we work by embedding safe and sustainable business practices throughout our business and work routines every day.

FY23 at a glance

› Total Recordable Injury Frequency increased by 11 per cent, with the severity of events decreasing, as measured by a 30 per cent reduction in the Lost Time Injury Frequency

› Continued to implement our multi-year Safety Improvement Program and strengthened safety leadership capability

› Progressed our activities on health and wellness to a more holistic psychosocial health approach and implemented additional controls with the aim of keeping our people safe and well

FY24 focus areas

› Continue to enhance our risk reduction mindset with specific focus on the effectiveness of our risk management to reduce events at our operations that could have resulted in serious injuries

› Continue to implement our Safety Improvement Program

› Further developing our psychosocial risk management framework and common psychosocial risk and controls

Performance snapshot

2
of our colleagues tragically lost their lives in a fatal incident at Mozal Aluminium[1].

1.4
Total Lost Time Injury Frequency (LTIF) (per 1,000,000 hours worked)[2].

1.3
Total Recordable Illness Frequency (TRILF) (per 1,000,000 hours worked)[3].

ICMM Principle

| 02 Decision-Making | 04 Risk Management | 05 Health & Safety |

South32 supports the UN SDG

3 GOOD HEALTH AND WELL-BEING

3.8

UNGC Principle

LABOUR

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(1) In November 2022, we were devastated by the loss of two of our colleagues, Mr. Cristovão Alberto Tonela and Mr. Alfredo Francisco Domingos João, who were fatally injured in an incident while undertaking maintenance work on a raising girder at Mozal Aluminium.

(2) Incidents are included where South32 controls the work location or controls the work activity. Lost time injuries include injuries that result in one or more lost work day after the day of the event.

(3) Incidents are included where South32 controls the work location or controls the work activity. Recordable illnesses include illnesses that result in medical treatment, restricted work or lost time.

Our approach

Health and safety

At South32, we are united by our belief that everyone should go home safe and well, every day. We are committed to a culture of safety supported by safety leadership, safe systems, standards, and business practices.

Due to the nature of our mining, mineral processing and refining activities, there are a number of potential hazards which our workforce could be exposed to. Our health and safety measures seek to reduce the risk of exposure to hazards, create a healthy and safe workplace and a culture which places high importance on safety, known as our safety culture.

Our approach to health and safety is guided by our Sustainability Policy and defined and implemented through our internal health and safety standards and procedures. The standards and associated procedures are aligned to the International Organisation for Standardisation (ISO) 45001 Occupational Health and Safety Management System Standard 2018, the ICMM Mining Principles: 2 – Decision Making, 4 – Risk Management and 5 – Health and Safety and comply with local laws and regulations.

Our health and safety standards are approved by our Chief Technical Officer (CTO) and apply to all South32 employees, contractors and visitors, across our operations, functions, projects and exploration activities where we have operational control. These standards set minimum performance requirements and controls to manage fatality, serious injury and illness risks. We also monitor health and safety performance at our non-operated joint ventures, seek to influence and align their standards with our own, where possible, and actively work with them by participating in their sustainability committees. Our Group Technical function is accountable for setting health and safety policies and standards as well as key performance indicators to measure health and safety performance against these standards and policies. Operations and functions are accountable for designing local systems of work to implement our internal health and safety standards and local requirements, with frontline leaders responsible for verifying, reporting, and improving the performance of their teams. Our approach is supported by the Three Lines Model which includes health and safety checks and reviews, stewardship activities and independent assurance on safety controls, measures and performance.

Safety and culture are inextricably linked and by supporting all of our people to feel safe, included and respected at work, we can enhance individual and collective performance. Employees are engaged on safety issues through office and operation-specific health and safety committees. These typically include peer-appointed health and safety representatives who promote health and safety improvement initiatives and participate in meetings and investigations. These committees, and all employees and contractors, are encouraged to speak up and escalate health and safety issues.

All members of our workforce, including employees and contractors, are empowered and expected to take action (including by stopping work) when there is a potential or actual threat to health and safety. Workers are protected against reprisal for reporting a work-related hazardous situation or acting on a safety concern. These mechanisms are embedded in our internal safety standard and outlined in our Speak Up Policy, available at _www.south32.net_. Our Speak Up Policy sets out how to report any concerns, what happens after reporting and how people will be protected from retaliation and be supported. Learn more about our Speak Up Policy in the Ethics and Business Integrity section on page 49.

+ **Learn more about our health and safety approach at _www.south32.net_.**

Fatality and serious injury elimination

We conduct risk identification assessments to determine the applicability of, and potential impacts from, a set of safety fatality risks defined in the internal safety standard. These risks include, amongst others, lifting operations, dropped objects, falls from height, fall of ground, electrical, vehicle interaction and entanglement. All risks with a potential fatal impact have a set of minimum mandated controls, supported by performance standards that outline how to effectively implement these controls.

We have technical experts providing advisory and second line assurance to our operations and projects over the implementation and effectiveness of the management of these safety fatality risks.

Our risk and event management system, Global360, supports our workforce to proactively identify and report hazards and events. We investigate incidents with fatality and serious injury potential to capture learnings and improve our controls.

Health and wellbeing

Health and wellbeing are actively promoted in our workplaces. We aim to create an environment that supports the health and wellbeing of our people and to protect them from potential workplace exposures and physical health impacts. Employees and contractors have access to occupational health services to prevent and detect early-stage adverse health effects from workplace exposures.

Potential health risks at our operations and projects include exposure to airborne contaminants and hazardous substances, non-ionising radiation and communicable and infectious diseases. Other health risks include noise and ergonomic stressors. We have defined minimum controls to manage exposure to these potential risks in the workplace. Developments in the management of material workplace and environmental exposures are monitored to inform our approach and occupational exposure trigger levels. We also monitor and manage potential exposures as a consequence of our operations for the communities near our operations. Learn more about this in the Partnering with Communities section on page 35.

Non-occupational employee health services cover chronic disease management, education, and referral for non-occupational related conditions. We provide risk-based preventative health measures at our workplaces, including, but not limited to, access to fitness facilities, influenza and COVID-19 vaccines, and malaria and HIV/AIDS programs.

Psychosocial risk is the likelihood of physical or mental harm as a result of exposure to psychosocial hazards, including work and workplace design, poor support, bullying and harassment. The growing need of appropriately managing the risk of psychosocial hazards at work was highlighted by the COVID-19 pandemic. Our commitment that everyone goes home safe and well includes mental health. Our Employee Assistance Program and mental health initiatives are designed with the aim of keeping our people feeling safe and valued. We support mental health and wellbeing through tailored programs. Our people are encouraged to raise awareness of, and encourage behaviours that support, the health and wellbeing of everyone, and aim to eliminate or minimise workplace psychosocial risks across our business.

Emergency preparedness and business resilience

Our internal security, crisis and emergency management (SCEM) standard sets minimum performance requirements and controls to manage risks related to our emergency response processes, with the aim of protecting our people, and minimising impacts on the environment and surrounding communities. The standard outlines the requirement that SCEM plans are developed, implemented, resourced and routinely exercised to mitigate material risks and to deliver a well-coordinated emergency response. Along with detailed SCEM plans, each operation has well-resourced emergency response and incident management teams with business continuity planning in place to manage potential events. The standard outlines responsibilities and is approved by the CTO.

Training and competency

Strong safety performance depends on our workforce being adequately trained and equipped with the right competencies for the work they do. Training frameworks are developed and regularly reviewed in accordance with our internal training standard. Job-related competencies are incorporated into our training and skills analysis, in line with our internal safety standard and as required by local laws. Skills matrices are developed and reviewed at least every two years, to identify capability development requirements, including training requirements for material safety risks.

Training, engagement, and awareness activities include:

– Conducting health and safety inductions for all new employees and contractors, covering training on potential material health and safety exposures in the workplace;

– Ongoing risk-based health and safety training for all applicable employees and contractors;

– Communicating health and safety information to all employees and contractors across our business;

– Engaging the workforce in safety decision-making with the appointment of health and safety representatives, health and safety committees, and in safety related meetings; and

– Empowering employees and contractors to identify hazards, assess risks, and contribute to workplace inspections and event investigations.

Our performance and progress in FY23

In November 2022, we were devastated by the loss of two of our colleagues, Mr Cristovão Alberto Tonela and Mr Alfredo Francisco Domingos João, who were fatally injured in an incident at Mozal Aluminium. The incident occurred while undertaking maintenance work on a raising girder and while inspecting the girder, a rope on the girder snapped, which led to one end falling to the floor.

Our deepest sympathies remain with the families and colleagues of the deceased to whom we provided our support and counselling. In response to the incident, we:

– Implemented additional controls, including exclusion zones and controlled access, to all other raising girders at Mozal Aluminium and Hillside Aluminium;

– Shared learnings across our business with immediate actions recommended where relevant;

– Commenced work with the original equipment manufacturer (OEM) to identify further safety improvements which could be made, including replacing critical components in all girders; and

– Shared key learnings across our industry.

Key learnings from the tragedy include to always:

– Assess the risks associated with a task, even if it is a routine task;

– Maintain operating discipline by closing out tasks which, if left incomplete, could escalate the potential safety risk;

– Follow OEM instructions, reports, and safe work instructions; and

– Assess capability to confirm that anyone undertaking a task has the right capability and is confident in the task.

We also disclose fatalities for contractor activities that are associated with our operations, but that take place in locations where we do not have control. In FY23, an employee from a company contracted by South Africa Manganese lost their life in an off-site road trucking accident. The contractor company investigated the incident, with our support as appropriate, and found the incident was a fatigue related event. We are working with our trucking contractors on standardising fatigue monitoring technology to prevent similar incidents occurring in the future.

We have both short and long-term internal health and safety targets which seek to eliminate fatalities and serious injury and deliver a year-on-year reduction in injuries and illnesses. Our targets are supported by our Safety Improvement Program combined with site-based health and safety improvement plans. While many of our safety metrics measure lagging safety performance, we also include leading measures such as governance and management, mindset and behaviours, capability and competency, processes and technology.

Enhancing Competency and Capability

Hotazel Manganese Mines (HMM) is exploring how we can better use technology to confirm that our operational workforce has the necessary competencies and capabilities for the work they are performing.

The Competency Assurance and Digital Enablement (CADE) project involves developing an end-to-end digital solution to automate and simplify tasks and processes associated with competency and capability verification.

Many of our sites use paper-based systems to manage employee and contractor competencies and permits to work. By creating an end-to-end digital solution, we can enhance safety by enabling verification and validation that people have the right qualifications, experience and skills, to implement controls to manage risks associated with competency.

While the project is still in development, once fully established every individual will have their own profile in the system, detailing the mandatory qualifications and competencies for the role. If an individual doesn't have the mandatory requirements, the system will flag this and they will be prevented from undertaking certain work until the requirements are met.

The system also has the potential to be integrated with other medical, access control and planning systems. Mobile devices will be used to enable verifications in the field. The CADE project will continue in FY24 and if successful at HMM, has the potential to be rolled out at other operations.

Health and safety performance

We track our performance against measures in our annual Business Scorecard which is a key determinant of the short-term incentive payments we make to all eligible employees. For FY23, the following measures were in place:

Health scorecard measure	Performance
A 20 per cent reduction in potential material exposures above 200 per cent of the Occupational Exposure Limit (OEL) compared to the revised FY22 baseline.	While we have recorded a 64 per cent reduction in material exposures at Groote Eylandt Mining Company (GEMCO), Cannington and Worsley Alumina, an increase in employee numbers in certain exposed job groups as well as production factors, led to an increase in potential material exposures at HMM, Hillside Aluminium and Mozal Aluminium, leading to an increase of potential material exposures >200 per cent OEL by 1.1 per cent.
Develop and implement a project pipeline to continue to reduce potential material exposures in excess of 200 per cent of OEL by implementation deadline of FY24.	The pipeline of FY24 projects aims to reduce potential exposures by 28 per cent compared to the FY23 outcome.

Safety scorecard measure	Performance
At least 80 per cent senior leadership attendance at the LEAD Safely Every Day workshops and coaching sessions.	247 of 250 senior leaders completed the LEAD Safely Every Day program in FY23, achieving 99 per cent attendance.
A reported significant hazard frequency of 55.	The significant hazard frequency for the period was 92, indicating a positive reporting culture and increased hazard awareness and identification.
Ensure 90 per cent of significant event investigations are completed and signed off within the allocated timeframe.	89 per cent of significant event investigations were completed and signed off within the allocated timeframe.
Ensure 90 per cent of significant event actions are completed on time.	95 per cent of significant event actions were completed on time.
Complete a deep dive review of 20 selected material risks across all operations.	24 material risk deep dives were completed.
A 10 per cent reduction in Total Recordable Injury Frequency (TRIF) from FY22 baseline.	TRIF increased by 11 per cent to 5.9 compared to the FY22 baseline of 5.3, not meeting our scorecard measure. This outcome is primarily attributed to an increase in recordable injuries reported during the financial year.
A 20 per cent reduction in Lost Time Injury Frequency (LTIF) against the baseline.	LTIF reduced by 30 percent compared to the FY22 baseline of 2.0, resulting in our lowest ever LTIF of 1.4.

We track our performance against a range of key performance metrics, a summary of which is shown below. You can find a list of our health and safety metrics in the 2023 Sustainability Databook.

Performance metric	FY23	FY22	FY21	FY20	FY19
Fatalities from health and safety incidents – total[1]	**2**	1	1	1	-
Total recordable injuries[1][2]	**220**	182	210	225	263
Total lost time injury frequency (LTIF)[1][3][4]	**1.4**	2.0	1.7	1.6	1.7
Total recordable injury frequency (TRIF)[1][2][3]	**5.9**	5.3	4.3	4.2	4.5
Total recordable illnesses[1][2]	**48**	47	53	79	73
Total recordable illness frequency (TRILF)[1][2][3]	**1.3**	1.4	1.1	1.5	1.3
Total significant hazard frequency[3][5]	**92**	72	41	25	-
Total potential significant events[6]	**269**	203	287	331	297

(1) Incidents are included where South32 controls the work location or controls the work activity.
(2) Includes incidents that that result in medical treatment, restricted work or lost time.
(3) Per million hours worked.
(4) Lost time injuries include injuries that result in one or more lost work day after the day of the event.
(5) A hazard is something that has the potential to cause harm, ill health or injury, or damage to property, plant, or the environment.
(6) Total potential significant events is the sum of potential significant near misses and actual potential significant events with a health, safety, environment, equipment damage or community impact.

This year we have disclosed LTIF for the first time. LTIF focuses our attention on those injuries that impact on a person's life either permanently or over an extended period. Our TRIF increased by 11 per cent to 5.9 compared to FY22, not meeting our scorecard measure of a 10 per cent reduction in TRIF from our FY22 baseline. This outcome is primarily attributed to an increase in recordable injuries reported during the financial year. Although we saw an increase in recordable injury events, the number of lost time injury events decreased, resulting in our lowest ever LTIF of 1.4, down 30 per cent from 2.0 in FY22.

We recognise that we must continue to improve our health and safety performance. This year we made changes to the structure of our health and safety teams to continue to drive the integration between culture and health and safety. We endeavour to continuously improve our health and safety leadership, behaviours, processes, and systems to eliminate fatalities, serious injuries and illnesses. This year, we continued to implement our multi-year Safety Improvement Program and strengthened safety leadership capability. We also further reviewed and implemented internal health and safety standards, educated our people about our health and safety commitments and continued to address workplace potential exposures.

Our Safety Improvement Program

We continue to implement our Group-wide Safety Improvement Program, a multi-year global program of work launched in FY22. It was designed with the aim of enhancing our safety culture, and by changing mindsets and behaviours, achieving a step change in our safety performance. The program consists of four workstreams, which this year delivered a range of safety milestones, including:

– **Shifting mindsets through leadership:** Our LEAD Safely Every Day training builds safety leadership capability through workshops and coaching for senior leaders, managers, superintendents and supervisors across all operations and functions. This year 1,322 leaders commenced and 247 senior leaders completed the training;

– **Empowering our people:** We designed and implemented a frontline improvement process to incentivise and embed frontline safety improvement suggestions. We aim to have a consistent, high-quality pre-start experience across all South32 operations with safety learnings embedded in operating system routines;

– **Reducing risks with effective controls:** We updated our risk guidance documentation and undertook risk training for our risk and control owners, delivered through safety coaches and safety practice leads. The focus of the program is to leverage our material risk review process to challenge how we think about reducing risk; and

– **Systems and metrics:** We finalised our revised internal safety standard – an important foundational element in the implementation of our Safety Improvement Program. The standard introduces the Safety System of Work, new requirements for safety-critical equipment and process safety management, and expands the list of common fatal risks and minimum expectations for these, to be reflective of the safety risks across our business. We expanded our reporting metrics to include an integrated set of leading and lagging key performance indicators.

This year, in a global communications campaign, we encouraged people to take greater responsibility for safety and highlighted tangible steps everyone can take to maintain safety in the workplace.

Reviewing our focus on fatality and serious injury and illness elimination

We have reviewed our approach to fatality and serious injury elimination following the tragic loss of our colleagues at Mozal Aluminium during FY23. We considered the learnings from the incident, as well as learnings from other serious injuries and fatalities, in our Safety Improvement Program.

In FY23, we increased the capacity and capability of our Group safety team to provide additional technical advisory and second line support to our operations, and undertook detailed assessments of material safety risks, including assessing the effectiveness of controls. We also enhanced our investigation capability and requirements including more independent participation in our investigations to provide greater unbiased insight into our events and contributing to our learnings from events.

Psychosocial framework

During FY23, we progressed our activities on health and wellness to a more holistic psychosocial health approach. As part of the ongoing improvement of our health and safety culture, we developed a psychosocial risk management framework which expands on our wellness approach. We also added a psychological safety metric to our Your Voice employee survey and integrated psychosocial risk management into our internal inclusion and diversity standard, including responding to inappropriate workplace conduct and enabling inclusion and diversity through job and workplace design.

We implemented additional controls such as alcohol limits across all locations and physical safety measures to mitigate the risk of sexual harassment and to keep our people safe and well at our operations and office locations. Our focus was on our highest exposure areas, and as a result, we reviewed South32 accommodation facilities near our operations and conducted independent security assessments and assurance to assist us in maintaining a safe living environment for our people.

Focusing on contractors

With contractors representing a large proportion of our workforce, we are continuously improving our Contractor Management System of Work and furthered implementation by extending it to relevant functions. It focuses on risk management, capability building, and system and process improvement and applies to all operations, projects, and exploration activities. Last year, we developed our internal contractor management standard to describe the end-to-end process, core components and related performance requirements of our Contractor Management System of Work.

We are developing a dedicated contractor management dashboard to embed contractor management performance metrics, expected to be launched in FY24. By improving our monitoring tools, we will be able to further strengthen compliance with health and safety and risk management requirements.

Transitioning our approach to COVID-19

This year, the global transition continued from controlling the viral spread of COVID-19 to developing strategies for managing endemic diseases. Our ongoing response reflects our goal of prioritising the health, safety and wellbeing of our people and communities. In December 2022, we transitioned to living with COVID-19 and shifted to managing COVID-19 as an illness rather than requiring a separate, dedicated response. We remain alert to the COVID-19 landscape and are well prepared to respond as required.

Community health exposure

Community health risks are identified and managed in accordance with our internal health standard. Health monitoring programs at our operations examine baseline and impact assessments and the potential impacts of operational exposures and emissions. We engage health providers and our community programs provide community health support and education for health issues such as malaria, HIV/AIDS and the management of communicable diseases. This year we further increased our monitoring and management of community health exposure, focusing on the impact of manganese dust in the communities near our manganese mining operations. Controls to manage low level dust exposure to communities include real-time

environmental monitoring and trigger action response plans; dust control systems including extraction and suppression systems and fugitive dust emission controls on unpaved roads. We also continue to progressively rehabilitate disturbed areas, plant vegetation in boundary areas and engage with communities.

Our membership of industry associations, such as the ICMM and the International Manganese Institute (IMnI), provides guidance and research into the best practice management of potential community health impacts and helps inform our approach to community health.

Security, crisis and emergency management

This year, we reviewed our internal security, crisis and emergency management standard and defined the threat scenarios our operations are required to use to assess their material security risks. Our strategic incident response processes were formalised as we standardised our emergency and security management plans and adopted an integrated emergency management platform that organises our emergency leadership capability in real-time from anywhere. All operations have undertaken an assessment against the new standard and are addressing any gaps.

Looking ahead

As we build on our safe and inclusive culture, activities planned for FY24 and beyond include:

– Continuing to roll out our LEAD Safely Every Day program which supports our leaders to engage their teams on our `safety guarantee', creating a sense of chronic unease to enhance our safety culture;

– Continuing to enhance our risk reduction mindset with specific focus on the effectiveness of our risk management to reduce events at our operations that could have resulted in serious injuries and illness;

– Building technical, leadership capability and assurance to improve the effectiveness of our enabling systems to deliver effective safety leadership and culture;

– Further developing our psychosocial risk management framework and common psychosocial risk and controls. We intend to embed psychosocial risk management into second line stewardship reviews and continue to manage sexual harassment as a material risk;

– Embedding the Contractor Management System of Work and integrating it into our Operating System, which guides how we work at South32; and

– Adopting a new standard for vehicle cabin air quality in Australia, providing an opportunity to align internal heavy vehicle standards to a more comprehensive standard for emission levels, recirculation system efficiency and filter efficiencies.

Improving Safety Outcomes in Maintenance Shutdowns

In FY21, our Cerro Matoso team experienced eight recordable injuries in a three-month period during their annual major maintenance shutdowns.

In response, the team implemented a systemic approach to safety and material risk management during maintenance shutdowns, which resulted in 20 consecutive maintenance shutdowns without recordable injuries over a period of 20 months and 422,000 hours of maintenance and projects. Actions included:

– Developing a comprehensive planning and scheduling process;

– Embedding a well-designed work approach to all activities which considers various aspects associated with performing work safely;

– Hosting workshops before executing activities to align leaders and supervisors to assess risks and define required controls;

– Implementing a systemic training plan;

– Conducting assurance activities before starting work to verify proposed controls and during execution to verify that these controls had been implemented; and

– Conducting workplace interactions with staff from all departments to have fresh eyes in the field.

This was supported by visible commitment and leadership from management, through setting high standards, actively participating in shutdowns and implementing contractor management improvement plans.

While we acknowledge that we must continue to improve our safety performance across our operations, it is equally important that we highlight positive safety improvements and share learnings. The team at Cerro Matoso have demonstrated that strong systems, combined with leadership, empowerment, risk identification and controls, can produce a sustainable improvement in safety outcomes.

ENHANCING OUR CULTURE THROUGH SAFETY LEADERSHIP

Across South32, we deliver on our purpose and strategy by aligning our workforce behind 'breakthroughs' – commitments which shape our annual business planning and enable us to focus on what's important. Nothing is more important than the health, safety and wellbeing of our people. Our first breakthrough is 'we all guarantee that everyone goes home safe and well'. This asks each person in our workforce – from the Chief Executive Officer (CEO) to the frontline workers – to take responsibility for their own safety and wellbeing, and that of their colleagues.

To promote hazard identification and management of safety risks, our people are asked to reflect on whether they can guarantee both their safety and that of their colleagues when executing their role and planned tasks. If the answer is no, then the challenge is to stop and ask what would need to be done differently to provide that guarantee. This is articulated as our 'safety guarantee' and it is used to create a sense of chronic unease, reduce complacency, and assist to reduce risk tolerance in relation to safety and health.

Safety and culture are inextricably linked and by supporting all of our people to feel safe, included and respected at work, we can enhance individual and collective performance. Our Group-wide Safety Improvement Program aims to enhance our culture as it relates to safety and deliver a stepchange in our safety performance. To enhance our culture in a way that can support improved safety performance, the Safety Improvement Program drives culture transformation through four workstreams:

1. Shift mindsets through leadership - leaders should demonstrate visible safety leadership, and commitment to our 'safety guarantee', and our values;

2. Empower our people - everyone at South32 should feel empowered, trusted, and heard so that we all go home safe and well;

3. Develop systems and metrics for success - systems and processes that enable effective planning and safe work; and

4. Reduce risk with effective controls - integration of safety and risk management, with controls aimed at reducing risk and preventing harm.

In FY22, we developed our safety leadership program called LEAD Safely Every Day and in FY23 leaders across the business were enrolled in the program, which is continuing in FY24. 'LEAD Safely Every' Day focuses on shifting mindsets through leadership and supports our leaders in embedding a commitment to our 'safety guarantee' within their teams, with the aim of fostering a culture where our people routinely identify and manage safety risks every day.

The program comprises workshops and coaching for all senior leaders, managers, superintendents and supervisors so they understand our safety leadership expectations and can contribute to building a strong safety culture that helps drive safety performance. Leaders are coached in developing an effective action plan to transform their own safety leadership and enhance engagement with their teams through visible felt leadership.

The program consists of four units (see diagram on page 27), with the first two units, LEAD Safely and LEADing in Practice, demonstrating how leaders can create and embed culture. These units apply to all leaders of teams, from the frontline to senior leaders.

UNIT 1
LEAD Safely
2 day workshop

UNIT 2
LEADing in Practice
3x monthly coaching sessions

UNIT 3
Leader as Coach
0.5 day workshop

UNIT 4
Coaching in Practice
3x monthly coaching sessions

Ongoing improvement embedded within Development Plan

Reinforced by Felt Leadership routines

Superintendents and above will complete an additional two units focused on their role as a coach, where they will participate in a workshop and coaching sessions and complete a competency assessment at the end of the program to identify ongoing development goals to incorporate into their personal development plans.

LEAD Safely Every Day applies a cascade model, deploying training and coaching from our Lead Team to frontline leaders. Each level of leadership participates in the program and then co-facilitates the program and provides coaching to the next layer of leaders. The program commenced in July 2022 with approximately 300 leaders in our Senior Leadership Team and Operational Leadership Teams and cascaded through to a further 1,000 frontline leaders through the year. Through this cascade model, key skills and insights are passed down through the business and safety mindsets embedded via coaching and role modelling, with personal actions plans integrated into our FY24 annual performance cycle.

As at 30 June 2023, line leaders completed the following units: 1,322 LEAD Safely Every Day workshops, 390 LEADing in Practice coaching sessions, 362 Leader as Coach workshops, and 255 Coaching in Practice coaching sessions.

While the full impact of this program on our safety culture may take time to emerge, there are some encouraging early signs. We have seen a positive shift in our people's perceptions of our 'safety guarantee' as evidenced by stronger scores from our Your Voice employee survey. In particular, support for the following statements both rose four per cent: "My line leader's actions show a commitment to our safety guarantee", and "I believe that it is possible for everyone to go home safe and well". In addition, more than 400 employees made specific reference to our 'safety guarantee' in their responses to the survey. There has also been a 13.9 per cent increase in workplace interactions (such as conversations and leadership presence) and 40 per cent increase in hazard reporting in FY23.

South32 has made a strong commitment to long-term safety transformation, and LEAD Safely Every Day supports all of our people to make a similar commitment to our 'safety guarantee'. In FY24, we plan to complete the roll out of LEAD Safely Every Day to supervisors and extend it to include frontline employees and frontline contractors. We also plan to embed key concepts, tools and language into our Leadership Fundamentals development program to sustain the momentum with current and future employees.

PEOPLE AND CULTURE

Our people are fundamental to our success. We seek to attract, develop and retain talented people who have a shared belief in our purpose and values. We are focused on fostering a safe, high-performance and values based organisational culture for our engaged, inclusive and diverse workforce. Our culture is a product of our people and systems, and is reflected in the way we work, the decisions we take, the courage we show and the legacy we leave.

FY23 at a glance

› Improved representation of women on our Operational Leadership Team to 28.7 per cent

› 78 per cent of employees completed our annual Your Voice employee survey, our highest participation rate

› Almost 1,000 frontline leaders participated in the Leadership Fundamentals Program to develop leadership capability

FY24 focus areas

› Extending the Living our Code series to contractors and we intend to implement the next phase of workplace conduct discussions

› Continuing to invest in leadership capability through the Leadership Fundamentals Program

› Finalising and deploying our employee value proposition, which we call the South32 experience

Performance snapshot

50%
representation of women on our Lead Team and **44 per cent** representation of women on our Board.

87%
representation of Black People in our South Africa operations.

79%
of respondents to our Your Voice employee survey feel engaged at South32.

ICMM Principle

| 02 Decision-Making | 03 Human Rights |

South32 supports the UN SDGs

| 4 QUALITY EDUCATION | 5 GENDER EQUALITY | 8 DECENT WORK AND ECONOMIC GROWTH | 10 REDUCED INEQUALITIES |
| 4.4 | 5.1 | 8.5 | 10.2 |

UNGC Principle

HUMAN RIGHTS LABOUR

Our approach

Workplace culture, inclusion and diversity

Our Board and Lead Team are focused on instilling a workplace culture that aligns with our purpose, reflects our values and supports the delivery of our strategy. They are responsible for shaping our safe, high-performance and values based organisational culture, which respects our people and supports both a positive employee experience and productive workplace.

Our Board and Lead Team receive regular updates on workplace culture through:

– Briefings on our annual Your Voice employee survey feedback;
– Workplace misconduct reports and steps taken to address these matters;
– Relevant data and insights about turnover, recruitment and retention opportunities and challenges; and
– Strategic risk insights and measures on workplace culture, and the attraction and retention of talent.

Our Code of Business Conduct (Code) together with our values, Leadership Model, and internal workplace conduct procedure, inform every decision we make and guide how we act, work, communicate and evaluate our conduct in the workplace. Our Operating Model and System of Risk Management clearly define roles and responsibilities across the business, including ownership and control of key risks, and provide a framework for assessing performance against objectives and identifying areas for improvement.

We align with the International Labour Organisation's Declaration of Fundamental Principles and Rights at Work, and are guided by the United Nations Sustainable Development Goal on Gender Equality, the ICMM Diversity, Equity and Inclusion Position Statement and the ICMM Mining Principles: 2 – Decision Making and 3 – Human Rights. Our internal reporting mechanisms help leaders monitor our culture and workplace behaviours and identify issues and areas for improvement.

Inclusion and diversity is a core element of our culture. We know an inclusive and diverse workforce is safer and allows for greater collaboration, innovation and performance. We are committed to building and maintaining an inclusive and diverse workforce that reflects the communities in which we operate. Our Inclusion and Diversity Policy, published on our website at _www.south32.net_, defines our approach to inclusion and diversity. Our internal inclusion and diversity standard applies to all employees and outlines the minimum requirements and expected practices across our people management systems, including recruitment, talent management and training, to create an inclusive culture and improve performance. This standard has a standalone set of performance requirements applicable to contractors, including sustainability and business conduct requirements, aligned to our contractor management processes.

We are a signatory to the 40:40 Vision, an initiative led by HESTA and supported by industry partners to pursue diversity in executive leadership in ASX300 companies. Our Chief Executive Officer (CEO) is a founding member of the Champions of Change National 2021 Group, which is a shared commitment to achieving gender balance across workforces and creating a workplace culture that is diverse and inclusive, at all levels and in all locations. Our CEO is also a member of CEOs for Gender Equity, a CEO-led membership organisation committed to achieving gender equality in Western Australia.

Attracting, developing and retaining talent

As at 30 June 2023, our workforce comprised 9,616 employees across 10 countries. Our ability to identify, attract, develop and retain talented people is fundamental to our success. Like many in the industry, we face increased competition for talent in many of the communities where we operate.

Our workplace culture and approach to inclusion and diversity are critical differentiators that help improve our ability to attract and retain the diverse talent we need to take our business forward.

Inclusion and diversity principles underpin our recruitment process. Where possible, we have diverse interview panels and candidate selection methods. We use pre-employment due diligence processes and routine assessments against our Leadership Model to recruit candidates most closely aligned with our values and expected standards of behaviour. In assessing applications for roles below manager level, the hiring manager will take all reasonable steps to establish a diverse interview panel and interview a diverse range of applicants. Recruitment processes are designed to prompt specific consideration of inclusion and diversity matters; and Leadership Model competencies form part of the criteria for candidate assessment and selection.

Our talent management process seeks to align people's capabilities with work opportunities and to develop people with the potential to perform business-critical roles.

We promote learning and support professional development for employees. Our learning and development channels include internal training and learning programs for specific role profiles, self-service learning through platforms such as LinkedIn Learning, and external capability programs with specialist vendors.

One lever that we use to achieve our objectives and shape our desired culture is our short-term incentive program that rewards achievements and behaviours that embody our values and leadership expectations. Our employee benefits are also an important part of our reward framework aimed at attracting and retaining talent. In addition to market competitive reward, benefits are offered such as the AllShare equity plan, which invites employees to become South32 shareholders and benefit from our growth and success.

Our annual employee survey, Your Voice, is an important feedback channel for our people and helps us to better understand employee experiences. The rich insights provided enable us to identify areas for improvement to continue to create an environment where every employee can flourish.

We do not tolerate any form of inappropriate conduct in our workplace. Our Code, values, Leadership Model and internal workplace conduct procedure clearly define expectations for workplace behaviours. Our Speak Up Policy encourages people to report unacceptable behaviour in the workplace and includes measures which seek to prevent any penalty for doing so. It provides mechanisms to report inappropriate conduct and internal procedures for conducting comprehensive investigations that are designed to protect the health, safety and wellbeing of all parties. We regularly engage with our people about workplace conduct, using mechanisms such as the Your Voice survey, which allows us to identify common concerns.

South32 has a robust approach to consequence management. It recognises that in addition to having a strong governance framework for responding to incidents, consequences must be clear, and enforced. South32 is committed to the highest standards of integrity and accountability, with our Code guiding us in how we do business every day.

Our Speak Up Policy, published as part of our Code, is our global whistleblower policy, empowering everyone to Speak Up when our values and standards of conduct are not being followed. We raise awareness with our people through management communication, training programs and in other related policies, standards, and procedures. We have a Business Conduct Committee, made up of senior leaders, to oversee the integrity of our Speak Up Policy and processes. We further inform our Board of material concerns raised under this Speak Up Policy, as well as material breaches of our Code.

+ **Read more about our Speak Up Policy, which outlines how business conduct concerns can be reported, in our Code of Business Conduct at *www.south32.net*.**

Our approach to managing employee relations is set out in our global employee relations framework. The countries we operate in are members of the International Labour Organisation, and we respect international labour standards and seek to comply with local labour laws and regulations. We engage in collective labour negotiations where appropriate, working to ensure mutually beneficial outcomes.

Employees have access to our Employee Assistance Program, which offers confidential counselling. They also receive additional benefits that differ across our locations reflecting local requirements, which may include retirement savings and pension matching programs, personal insurance, medical insurance subsidies, educational assistance, service awards and corporate discount programs. Our market competitive entitlements for parental leave support eligible employees who are growing their families. We provide opportunities for employees to balance personal and business priorities with flexible and remote work arrangements. Our procedures set guiding principles for line leaders to work with their teams and agree on flexible work arrangements, supported by technology solutions and regular communication.

+ **Learn more about the benefits provided to employees in our 2023 Sustainability Databook at *www.south32.net*.**

Our performance and progress in FY23

Inclusion and diversity

We track performance against our inclusion and diversity measurable objectives in our annual Business Scorecard, which is a key determinant of the short-term incentive payments eligible employees receive.

Our inclusion and diversity measurable objectives provide a series of targets and actions aimed at improving inclusion and diversity in our workplace. Gender targets are based on the 40:40 vision, while representation of Black People is based on the *South African Broad Based Black Economic Empowerment Codes*.

In FY23, we met the target for four of our eight inclusion and diversity measurable objectives.

Measurable objective	Performance
Demonstrate year-on-year improvement in representation of women in the overall workforce as we track towards our goal of achieving 40 per cent representation by the end of FY29.	Improved representation of women in our total workforce to 20.2 per cent from 19.2 per cent in FY22, but did not achieve our FY23 target of 22.2 per cent.
Improve the representation of women on our Lead Team, contributing to meeting our target of at least 40 per cent representation of women by the end of FY27.	The representation of women on our Lead Team increased to 50 per cent from 37.5 per cent in FY22 and exceeded our FY23 target of 38 per cent.
Improve the representation of women on our Senior Leadership Team, contributing to meeting our target of at least 40 per cent representation of women by the end of FY27.	The representation of women on our Senior Leadership Team decreased to 30.3 per cent from 32.1 per cent in FY22. We did not achieve our FY23 target of 33.7 per cent.
Improve the representation of women on our Operational Leadership Team, contributing to meeting our target of at least 40 per cent representation of women by the end of FY27.	Improved the representation of women on our Operational Leadership Team to 28.7 per cent, from 20.4 per cent in FY22, achieving our FY23 target of 28.4 per cent.
Maintain representation of women on our Board of at least 40 per cent.	The representation of women on our Board increased to 44.4 per cent from 37.5 per cent in FY22.
Maintain the representation of Black People in South Africa.	Maintained the representation of Black People in South Africa ≥85 per cent, achieving 86.9 per cent.
Maintain representation of Black People in management roles in South Africa.	Achieved 55.3 per cent of Black People in management roles in South Africa, but did not achieve our FY23 target of ≥60 per cent.
Continue to target pay equity for our employees, with respect to gender and ethnicity, by reducing spend year-on-year.	We completed our equity pay review, investing US$338,000 to improve pay equity, narrowly missing our target of reducing spend year-on-year to close the pay gap.

While we are making improvements in some of our gender targets and representation of Black People in South Africa in FY23, we face the same challenge as our industry peers in developing a workforce that represents the communities in which we operate, especially recruiting more women into operational roles. To address this challenge, we developed four priority areas as part of our annual inclusion and diversity action plan:

– Managing sexual harassment as a material health and safety risk by working to identify potential triggers, and refining and strengthening control measures to reduce the risk in our workplaces;

– Providing a safe and respectful workplace for our people. As part of our work to improve the physical safety and security of our workplaces, we rolled out a security assessment checklist to support the application of security management principles and security control measures to mitigate the risk of sexual harassment in the workplace. It is used by management and site leadership to consider the design and operating effectiveness of controls for workplace and village design and overall security measures such as closed-circuit television, lighting, duress alarms, communication, signage and security personnel;

– Establishing inclusion and diversity networks at all of our locations. These employee networks play a critical role championing inclusion and diversity and embedding processes. We also formed a global Inclusion and Diversity Steering Committee comprising senior leaders within our business to guide the development and execution of our inclusion and diversity activities across our organisation; and

– Delivering the Living our Code discussion series. These are leader-led, small group discussions about acceptable and unacceptable workplace behaviours, the important role bystanders play in creating a respectful work environment and the responsibility to speak up about inappropriate behaviour. As at 31 December 2022, more than 90 per cent of employees participated in a Living our Code discussion.

Throughout FY23, we integrated and strengthened our internal diversity and inclusion standard across our global locations by engaging stakeholders across the business, conducting a gap analysis against all inclusion and diversity expectations in each operation and function and implementing improvements when required. In FY24 we will continue to strengthen and integrate the standard across the business as well as revise our Inclusion and Diversity Policy to reflect the evolution in our global approach to inclusion and diversity.

Inspirational Women in Mining

Meet Talar Anjer Koushian and Danielle Kyle, two of our employees who were selected for the 100 Global Inspirational Women in Mining 2022, a biennial publication that highlights the incredible diversity of talent in mining and celebrates inspirational women and their stories.

At the age of 24, Talar and her sister Rita escaped war in their homeland of Syria, fleeing for Lebanon. It took a harrowing three-year journey to get there, then an agonising wait for a humanitarian visa to enter Australia.

Despite this, fear has never defined Talar, and she not only beat the odds but overcame them and thrived, joining South32 as the first woman in our pilot Refugee Talent Program. Now, Talar is a Security Awareness Specialist in our Cybersecurity team and shares her story and culture with others to inspire and encourage inclusion and diversity in our business.

Raised by a single mother on a remote island off the north-west coast of Queensland, Australia, Danielle has risen from humble beginnings to build a successful career at South32. Commencing as an administration contractor at the Cannington mine in 2007, Danielle was one of few Aboriginal and Torres Strait Islander employees at the operation and initially felt out of place, but saw this as an opportunity to change things.

Now an Indigenous Liaison Officer, Danielle has established the successful Indigenous Work Experience Program and Indigenous Networking Group to increase participation of Aboriginal and Torres Strait Islander Peoples and become a strong advocate for their employment at South32 and in the mining sector. Danielle was recently named as a joint winner of the Exceptional Indigenous Person in Queensland Resources at the 2023 Queensland Resources Council Indigenous Awards.

These two people, and many others in our business, demonstrate the significant role that inclusion and diversity play in strengthening our culture and lifting performance.

Culture and engagement

In FY23, 7,358 individuals (78 per cent of employees) completed our annual Your Voice employee survey, the highest participation rate since South32 was formed in 2015. The survey tested five dimensions – safety, leadership, employee engagement, employee experience and workplace conduct. In FY23, respondents reported an improvement in performance against all five dimensions demonstrating the positive impact of global programs including LEAD Safely Every Day, the frontline Leadership Fundamentals Program, and Living Our Code. Based on the survey responses, our employee engagement score improved from 78 per cent in FY22 to 79 per cent in FY23. Nearly 700 line leaders were provided with direct access to their team's results, enabling line leaders, with their teams, to effect local change to the employee experience. More than half of our workforce reported discussing their team's results with their line leader last year. Areas for improvement include the opportunity to further embed our 'safety guarantee' – an internal approach to creating a sense of chronic unease in relation to safety that can help to reduce risk tolerance – and continued investment in leadership capability development.

Through our Your Voice survey, we asked our people to share their experience of bullying, discrimination, harassment, and sexual harassment in the last 12 months. While 84 per cent of respondents indicated that they felt workplace misconduct was not tolerated at South32, 13 per cent of respondents reported that they had experienced some form of bullying, harassment, sexual harassment, or discrimination in the prior 12-month period. Of the respondents who reported experiencing inappropriate conduct, approximately 33 per cent said they had formally reported this conduct, up 6 percentage points from FY22, which is an indication that they know they will be heard, and action will be taken. These results demonstrate the importance of ongoing communication around our expectations regarding appropriate workplace conduct, and that we must continue to create a workplace where our people, including bystanders, feel empowered and supported to speak up and report inappropriate conduct so it can be addressed.

+ Read more about our Speak Up Policy, on page 50.

In FY23, we integrated our onboarding and exit interviews with the same engagement platform we use to conduct the Your Voice survey, providing a rich dataset across an employee's time with South32. We will expand the use of the platform in FY24, gathering insights on our leaders experiences and encouraging contractor feedback.

Developing capability and leadership

In FY23, we continued to develop leadership capability through our Leadership Fundamentals Program, with 966 frontline leaders participating in the program. We strengthened our global talent framework to facilitate talent discussions across our global locations and build our internal talent pipeline to support business performance and the development of our people.

This year we continued to mature our Group training and learning practices to build the necessary capabilities for our employees and agency contractors to be safe, productive and engaged in their roles. This included reviewing our internal training standard and training framework and building a global training reporting suite to enhance our capability attainment measurement processes. A Training Advisory Council was formed, bringing together members of our Lead Team to examine group capability priorities, monitor group capability attainment and review our training stewardship insights and actions.

Our Education Assistance Program also supports eligible employees who want to develop their skills and capabilities with formal education and training. At the end of FY23, 2,159 employees had an active LinkedIn Learning license, up 20 per cent from FY22, enabling direct access to a broad library of online professional development content. In addition, there is a core suite of 23 corporate development programs assigned to specific leadership role profiles to support learning.

In FY23, we engaged 81 vacation students and as at 30 June 2023, we had a further 430 graduates, apprentices, trainees and learners in our talent pipeline. In line with our commitment to inclusion and diversity, 45 per cent of these are women.

In FY23, 4,865 eligible employees[1] (50.5 per cent of all employees) who receive a short-term incentive (STI) component in their contract or relevant enterprise agreement under the global South32 STI Plan participated in annual performance reviews and had regular check-ins with their line leader for continuous feedback, development, and coaching.

In FY23, 179 employees took primary parental leave, of which 150 were women and 29 were men. 114 of these employees were due to return from Parental Leave in FY23, of which 113 did return to work and one did not, while the remaining 65 employees are expected to return in FY24.

We support our employees in their return to work with flexible work arrangements, graduated return to work plans and additional lump sum superannuation contributions for eligible employees.

Employee relations

As at 30 June 2023, collective agreements covered 51.8 per cent of employees. In FY23, we successfully concluded negotiations for collective agreements that apply to employees at Illawarra Metallurgical Coal (Dendrobium mine deputies). Agreements were made covering Worsley Alumina (refinery maintenance employees) and Illawarra Metallurgical Coal (maintenance and operator employees) and were subsequently approved by the Fair Work Commission. During negotiations in FY23, South32 did not experience any employee-related work stoppages exceeding one week's duration. As at August 2023, we continue to negotiate for enterprise agreements covering employees at Illawarra Metallurgical Coal (Appin mine deputies) and Cannington (mine and port), and we are managing ongoing protected industrial action as part of the Appin mine deputies' negotiations.

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(1) Eligible employees primarily reflect our workforce on individual agreements. Performance review records for the majority of employees covered by an enterprise bargaining agreement are not recorded in our performance management system.

Looking ahead

As we continue to strengthen our safe, high-performance and values-based organisational culture, activities that are planned for FY24 and beyond include:

– Continuing to implement our internal inclusion and diversity standard with oversight from our global Inclusion and Diversity Steering Committee and local inclusion and diversity networks;

– Planning for and delivering the Living our Code series to contractors;

– Building on our Living our Code sessions, we intend to implement the next phase of workplace conduct discussions focused on the role of bystanders in helping reduce unsafe and disrespectful behaviours;

– Sustaining our ongoing investment in building leadership capability through the continued deployment of the Leadership Fundamentals Program (for frontline leaders) and developing and deploying a complementary program for superintendents and managers;

– Enhancing workforce planning and people management practices and creating a diverse and representative talent pool;

– Continuing to actively manage sexual harassment as a material health and safety risk in accordance with our risk management processes, assessing the effectiveness and comprehensiveness of our risk controls, and inviting feedback from employees and contractors to inform how best to maintain a safe, respectful and inclusive workplace; and

– Finalising and deploying the South32 experience employee value proposition, which will form a 'golden thread' of who we are, what it means to work at South32 and what we expect of our people. This will help us shape an employee experience that assists with attracting, engaging, and retaining talent in customised ways across our operations and corporate offices.

Investing in Future Leaders

Since 2017, we have invested in the development of leaders at the manager and superintendent level in South Africa and Mozambique through the roll out of the Emerging Leaders Program.

The program, facilitated by the University of Cape Town's Centre for Coaching, was designed as one stream in the overall leadership development journey, equipping leaders with skills and tools to create trust, coach and develop others, be collaborative and inclusive, and drive performance and accountability.

The 18-month program included nine contact sessions of two days each, delivered in a virtual format. Attendees were also supported by a personal coach for the duration of the program.

Members of the 2021 intake completed the program in FY23, with more than 100 people having participated since the program commenced.

To continue developing our pipeline of talent and enhancing leadership capability, in FY24 we plan to extend our suite of internal leadership development programs aimed at the superintendent and manager levels. These will complement our frontline program, Leadership Fundamentals, and provide a global suite program that covers approximately 95 per cent of all line leaders at South32.

DELIVERING VALUE TO SOCIETY

We believe that, when done sustainably, the development of natural resources can change people's lives for the better. In delivering our strategy, we seek to create enduring social, environmental and economic value, in a way that aligns with our purpose and values. We believe trust and transparency are essential to the way we operate, we listen to our stakeholders to understand what's important to them and work together with the aim of creating shared value.

IN THIS SECTION

PARTNERING WITH COMMUNITIES

We are a global business with a local focus, and committed to building meaningful relationships in the communities where we operate. We actively engage with stakeholders to understand their interests and aspirations and identify opportunities to work together with the aim of creating shared value.

FY23 at a glance

› Updated Our Approach to Cultural Heritage to apply globally and developed Our Approach to Indigenous, Traditional and Tribal Peoples Engagement

› Supported reconciliation in Australia and created opportunities for open discussion on an Indigenous Voice to Parliament

› Updated our community complaints and grievance process guidelines

FY24 focus areas

› Launching our second Innovate Reconciliation Action Plan

› Continuing to embed the Global Industry Standard on Tailings Management community requirements for South32 operated tailings storage facilities (TSFs)

› Continuing to develop our approach to and studies on the social impacts and opportunities of closure

Performance snapshot[1]

913
employees and contractors completed cultural awareness training.

93%
of community complaints were closed out.

100%
operations with implemented stakeholder engagement plans, impact assessments and social investment plans.

ICMM Principle

03 Human Rights
04 Risk Management
09 Social Performance
10 Stakeholder Engagement

South32 supports the UN SDGs

8 DECENT WORK AND ECONOMIC GROWTH — 8.5
10 REDUCED INEQUALITIES — 10.2
11 SUSTAINABLE CITIES AND COMMUNITIES — 11.4
17 PARTNERSHIPS FOR THE GOALS — 17.16

UNGC Principle

HUMAN RIGHTS   LABOUR

(1) For all performance data related to this topic, refer to the 2023 Sustainability Databook available at *www.south32.net*.

Our approach

We understand that mining has the potential to have both positive and negative impacts on communities. We are committed to improving people's lives and seek to create and sustain social, environmental and economic value wherever we operate.

Engaging with communities

The support of the communities where we operate is critical to our success. Being transparent and building relationships based on trust is essential to the way we operate. That means being in touch with the broader community, considering different perspectives and working together.

Our engagement with communities is driven by our purpose and values. Our approach to community engagement is guided by relevant international standards such as the ICMM Mining Principles and Performance Expectations, including Mining Principles: 3 – Human Rights, 4 – Risk Management, 9 – Social Performance and 10 – Stakeholder Engagement. Our internal social performance standard sets the minimum performance requirements for collaborative and transparent engagement with host communities and provides guidance on identifying and managing social impacts and risks associated with our activities. These requirements apply to all operations, functions, projects and greenfields exploration where we have operational control. We regularly review the implementation of the standard as part of our stewardship activities. External Affairs teams located at our operations are responsible for engaging with communities in a contextual and culturally appropriate manner.

Our internal social performance standard outlines the requirements that all operations develop a social performance plan, informed by an understanding of the context, impacts and stakeholders' development priorities. Updated and reviewed annually, these plans address social impacts, social investment, and economic development.

+ **Read more about our social investment and economic development approach on page 42.**

Stakeholder and local community research provides us with valuable insights into the social, environmental and cultural aspects of the local regions near our operations. To understand and manage our social impacts we undertake socio-economic baseline assessments of the social and economic context of host communities to identify important issues. Social impact assessments are also undertaken to identify risks and impacts from our activities on local communities, with social risks assessed and managed as per the South32 System of Risk Management. Socio-economic baseline and social impact assessments are reviewed and updated at least every five years, or where there is a significant change in our activities or host communities. Community perception surveys support these assessments and allow us to receive valuable feedback and evaluate levels of community support and trust.

Our internal social performance standard outlines the requirement that potentially affected stakeholders are identified, including those people who are most vulnerable to harm or marginalised. Supported by the ICMM Community Development Toolkit, we identify and analyse stakeholders to understand their interest, influence and the extent to which our activities may impact them. Engagement with communities begins early during the exploration phase and lays the foundation for long-term partnerships. Using engagement forums and workshops we work to understand stakeholder expectations, needs, concerns and issues. In these forums we discuss our activities and performance and seek feedback on any other matters important to local communities. We use this feedback and understanding of expectations, needs and concerns to inform our business activities, stakeholder engagement plans and social investment plans at our operations, which are reviewed and updated annually.

For greenfields exploration we piloted a new process to assess social and human rights impacts and development opportunities for stakeholders prior to each stage of exploration.

This year we have worked on several community activities related to closure and tailings. Learn more about the social impacts of closure on page 83 and tailings on page 74. Learn more about Our Approach to Tailings Management at *www.south32.net*.

Partnering with communities at the Hermosa project

The Hermosa project is in Santa Cruz County, where nearly 25 per cent of residents live below the poverty line. South32's potential investment in the Hermosa project would create family-sustaining jobs, help support local public schools and services, and increase opportunities for local businesses.

We are committed to developing a homegrown workforce with the skills needed to bring the Hermosa project to life and support the broader community for generations to come by:

– Prioritising local hiring;

– Partnering with Santa Cruz County-based education institutions and Tribal communities—including on STEM and robotics programs;

– Partnering with state universities to strengthen internship opportunities; and

– Continuing to explore regional partnership opportunities to support workforce and economic development.

Our aim for the Hermosa project is to make a lasting contribution through social investment to improve people's lives in nearby communities. The South32 Hermosa Community Fund provides support for non-profit organisations based in Santa Cruz County. Supported areas include education; arts; culture and history; environment; health and welfare; recreation; and civic enhancement. Since its inception in 2019, the South32 Hermosa Community Fund has awarded 95 grants, contributing over US$ 800,000.

+ **Learn more about the Hermosa project at *www.south32.net*.**

Cultural heritage and Indigenous, Traditional and Tribal Peoples

We believe it is important for cultural heritage and mining to co-exist. We are committed to working with communities and stakeholders, including Indigenous, Traditional and Tribal Peoples, with the aim of achieving the best possible outcomes wherever our activities have the potential to impact cultural heritage. We contribute to cultural wellbeing through consultation and responsible management of cultural resources.

We engage with Indigenous, Traditional and Tribal Peoples using culturally appropriate methods throughout the mining lifecycle to foster relationships based on transparency and trust. Consistent with the ICMM Position Statement on Indigenous Peoples and Mining, we apply the principles of free, prior and informed consent (FPIC) in seeking to obtain and maintain agreed outcomes with Indigenous, Traditional and Tribal Peoples. We work collaboratively with Indigenous, Traditional and Tribal Peoples to preserve cultural heritage and advance opportunities for economic participation and social inclusion.

Learn more about Our Approach to Cultural Heritage and Our Approach to Indigenous, Traditional and Tribal Peoples Engagement, including our commitment, the principles we follow to meet our commitment and our management approach at *www.south32.net*.

Valuing reconciliation in Australia

As a significant employer and investor in Australia, we recognise the positive impact we can have on reconciliation. Our vision for reconciliation is for an Australia that embraces the histories and cultures of Aboriginal and Torres Strait Islander Peoples and that, as a nation, we work collectively towards supporting all Australians. We developed our Reflect Reconciliation Action Plan (RAP) in 2018, which created a strong foundation for long-term change. Our next level Innovate RAP was launched in 2020 to build on our previous commitments and integrate reconciliation activities into our business practices and decision-making.

We plan to release our second Innovate RAP in 2023. This RAP has more ambitious goals and targets to further increase Aboriginal and Torres Strait Islander employment and procurement, elevate Aboriginal and Torres Strait Islander voices, support cultural heritage projects identified by Traditional Owners and further embed reconciliation across our business.

Through our second Innovate RAP we aim to:

– Become an employer of choice for Aboriginal and Torres Strait Islander Peoples, growing our Aboriginal and Torres Strait Islander Peoples workforce to represent 3.2 per cent of our total Australian workforce by 2030 and supporting culturally sensitive work environments;

– Increase our procurement of goods and services from Aboriginal and Torres Strait Islander businesses to three per cent of contestable spend by FY27, consistent with the Business Council of Australia and Supply Nation Raising the Bar Program;

– Help our people become culturally aware and develop the skills and knowledge to respectfully engage with Aboriginal and Torres Strait Islander Peoples in their day-to-day work, with mandatory cultural awareness training in place for all Australian employees and tailored training for employees that engage with Aboriginal and Torres Strait Islander Peoples where it is deemed necessary;

– Build and maintain strong relationships with Aboriginal and Torres Strait Islander Peoples in the communities where we operate; and

– Support cultural heritage projects identified by Traditional Owners, by identifying and scoping at least one project at each Australian operation that aims to strengthen culture through cultural heritage management and capacity building.

+ Learn more about our Innovate RAP at *www.south32.net*.

The Uluru Statement from the Heart

We support the Uluru Statement from the Heart as the pathway towards reconciliation put forward by Australia's First Nations Peoples to enshrine a voice for First Nations Peoples into the Australian constitution.

As a company we believe it is in our interests that the communities who support our operations are thriving and we further believe that this will be supported if First Nations Peoples have a say on matters relating to them. In FY23 we have raised awareness and created opportunities for open discussion amongst our employees on an Indigenous Voice to Parliament by sharing why South32 supports it and how it links to our purpose, values and vision for reconciliation. We also shared stories and messages across our internal and external global communications channels and held events and opportunities for discussion with Aboriginal and Torres Strait Islander Peoples about what an Indigenous Voice to Parliament means to them.

Our vision for reconciliation is for an Australia that embraces the histories and cultures of Aboriginal and Torres Strait Islander Peoples and that as a nation, we work collectively towards supporting all Australians. Now is the time for Australia to come together and heal as one, so that we can truly be a nation for all.

Community complaints and grievances

Our complaints and grievances mechanisms are available for members of the community, who can use these services anonymously. Given our diverse operating locations, we aim to develop activity specific, locally appropriate and culturally sensitive complaints and grievance processes.

We listen to and report community complaints or grievances we receive, anonymously or otherwise, through our complaints mechanisms and address them as a priority. Our community complaints and grievances processes are aligned with the United Nations Guiding Principles (UNGPs) on Business and Human Rights and the UN's Protect, Respect and Remedy Framework, specifically to:

– Acknowledge, investigate, and document all complaints;

– Allow for anonymous reporting of complaints;

– Complete appropriate remedial action;

– Communicate transparently with complainants; and

– Be readily available to all members of local communities.

Our performance and progress in FY23

We track our performance against a range of key metrics, shown in full in the 2023 Sustainability Databook.

The number of community related non-technical delays[2] increased from one in FY22 to six in FY23, resulting in a cumulative delay of 2.3 days. The FY23 increase in community-related non-technical delays was due to increased community protest and unrest frequency at Hotazel Manganese Mines (HMM) related to contractor management and community related issues. HMM is taking action to mitigate, address and improve controls related to increased community protest and unrest.

In FY23, work began on embedding the requirements of our internal social performance standard, which was enhanced in FY22, with each operation completing a gap assessment against the standard.

Cultural heritage and Indigenous, Traditional and Tribal Peoples engagement

This year we updated our Our Approach to Cultural Heritage (previously published in 2021) to apply globally, and developed Our Approach to Indigenous, Traditional and Tribal Peoples Engagement. Both approaches are supported and operationalised by our internal social performance standard, and include further Indigenous, Traditional and Tribal Peoples requirements, stewardship and cultural heritage control implementation. They outline our commitment to apply the principles of free, prior, and informed consent in seeking to obtain and maintain agreed outcomes with Indigenous, Traditional and Tribal Peoples.

Further development of our internal cultural heritage risk controls in line with the social performance standard have provided better guidance on applying the principles of FPIC. The mandated group-wide control requires more prescriptive demonstration of the FPIC principles, coupled with increased technical obligations for cultural heritage management. This includes data management obligations and use of the heritage database platform LandAssist.

We continued to celebrate and promote the culture of Indigenous, Traditional and Tribal Peoples. Working in partnership with Indigenous, Traditional and Tribal Peoples, we developed and delivered training for 913 employees and contractors to increase their cultural awareness.

At Illawarra Metallurgical Coal (IMC), as part of an inspection following completion of mining at Longwall 19 at our Dendrobium mine, our team identified changes to rock formations recorded in the Aboriginal Cultural Heritage Assessment as sites with cultural significance. In accordance with the Cultural Heritage Management Plan for Longwall 19, these changes were reported to Registered Aboriginal Parties, HeritageNSW and the NSW Department of Planning and Environment. A site management plan to assess the impact to the sites and discuss measures that could be taken to mitigate further impacts is being co-developed with the Registered Aboriginal Parties.

Cerro Matoso has initiated a project to strengthen the capacity, and cultural resilience of the Afro-descendant communities of Boca de Uré and San José de Uré. The Ethno-development Plan (PED in Spanish) aims to allow greater involvement in decision making for the self-identified Black, Afro-Colombian, Raizales and Palenquera Communities (CNARP) to participate in development goals in a way that is consistent with their traditions. Strengthening living culture, and providing the means to continue and perpetuate cultural connections, is fundamental to the ability of communities to participate in the Plan. Once the initial phases of the project are complete, the framework will be available to other communities and stakeholders to achieve the same objective.

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(2) Community-related non-technical delays includes community action directed towards South32 operations which contributes to a delay in production.

Reconciliation Action Plan

During FY23, we supported reconciliation by:

– Increasing our procurement of goods and services from Aboriginal and Torres Strait Islander businesses by 18 per cent year-on-year, exceeding our target of a 10 per cent increase;

– Raising awareness and creating opportunities for open discussion amongst our employees on an Indigenous Voice to Parliament by sharing why South32 supports an Indigenous Voice to Parliament and how it links to our purpose, values and vision for reconciliation. Learn more on page 37;

– Joining the Business Council of Australia's Raising the Bar initiative, committing to grow Indigenous procurement to three per cent of contestable spend by 2027;

– Increasing the number of South32 employees mentoring Australian Indigenous Education Foundation (AIEF) secondary school students from three to seven;

– Employing the first MADALAH scholarship recipient following completion of our inaugural Indigenous vacation student program at the Perth corporate office and Worsley Alumina;

– Establishing a new three-year partnership with Reconciliation Western Australia to deliver the annual Walk for Reconciliation in Kaarta Koomba (Kings Park), providing an opportunity for people to connect to Boodja – land or country in Noongar language – and celebrate living Noongar culture; and

– Increasing employee awareness and engagement relating to reconciliation through activation of National Aborigines and Islanders Day Observance Committee (NAIDOC) week and Reconciliation week activities at all Australian operations and offices.

We plan to launch our second Innovate Reconciliation Action Plan this calendar year. Performance against the aims of our second Innovate RAP will be provided in the 2024 Sustainable Development Report.

Empowering Indigenous Careers

Our Innovate Reconciliation Action Plan includes a commitment to improve employment outcomes by increasing Aboriginal and Torres Strait Islander recruitment, retention and professional development.

In line with this commitment, we have established two multi-year partnerships to support future career pathways to employment for Aboriginal and Torres Strait Islander students.

The first is with MADALAH Limited to help young Aboriginal and Torres Strait Islander Peoples from Western Australia further their education and pursue their career aspirations. Each year, during the term of partnership, we award 20 tertiary scholarships to Aboriginal and Torres Strait Islander students for disciplines needed in the mining industry, including engineering, geology, chemistry and law. The scholarships cover tuition fees, living costs and travel expenses. Participants include Aboriginal and Torres Strait Islander Peoples from the communities surrounding Worsley Alumina and the Perth head office.

We also established an Aboriginal and Torres Strait Islander vacation program to develop pathways to employment at South32 for MADALAH scholarship recipients. Our first vacation student is studying Civil Engineering, Mathematics and Statistics at the University of Western Australia. The vacation student spent time at both Worsley Alumina and the Perth head office and as a result of the positive experience, has accepted a role with us and is now working part-time while completing his studies.

The second partnership is with the AIEF, where we award scholarships for Aboriginal and Torres Strait Islander students to pursue their education at leading Australian boarding schools. Students supported by the program access quality education in culturally inclusive environments, where they develop the skills and confidence to fulfil their potential and make the most of their opportunities.

Students from AIEF visited the Cannington mine in FY22 and FY23 to learn about the many pathways to employment in the mining industry via a 'Career Experience Day' developed by Cannington employees.

One of the students who visited the mine is in her senior years at The Cathedral School, Townsville. She is also being mentored by a Cannington employee through AIEF mentoring. An additional key support for AIEF students, volunteer mentors provide advice and guidance to help students broaden their knowledge and reach their goals.

In total, 33 students have received MADALAH scholarships and 13 students have received AIEF scholarships as a result of South32 funding.

Community complaints and grievances

In FY23, we updated our community complaints and grievance process guidelines to incorporate the updated requirements of our internal social performance standard and the findings of an effectiveness review conducted in FY22. This included providing specific guidance on the implementation of the UNGPs Effectiveness Criteria for complaints and grievances. The guideline was rolled out to the operation-based External Affairs teams who have accountability for the process to inform local complaints and grievance mechanisms.

In FY23, we received 124 complaints and one grievance. This compares to 120 complaints received in FY22 and no grievances. Ninety-three per cent of FY23 complaints were closed out. The one FY23 grievance is related to noise at IMC and is being managed by the operation.

Fifty-seven per cent of complaints were noise related with 99 per cent of these closed out. Eighty-nine per cent of noise complaints were recorded at Worsley Alumina and IMC.

Most noise complaints at IMC were related to the Dendrobium mine and trains traveling between the Kemira Valley Coal Loading Facility and Port Kembla. Mitigation measures implemented to reduce noise impacts included noise mitigation at the source, change in activity, reinforcing the Driver Code of Conduct, and mechanical adjustments to train carriages. Noise complaints at Worsley Alumina were related to operational machinery. Mitigation measures include active noise monitoring, taking into account meteorological conditions, restrictions on activities during night shift and temporary relocation options for nearby neighbours.

Sixteen per cent of complaints were traffic related, with 70 per cent of these recorded at IMC, mainly relating to contractor activity at the Appin Mine Ventilation Project. Mitigation measures included adjusting temporary traffic light switch times to increase traffic flow, relocating the temporary truck waiting bay to an alternate location and reinforcing the Driver Code of Conduct.

Looking ahead

As we continue to partner with communities, activities planned for FY24 and beyond include:

– Continuing to embed, and commencing stewardship of, our updated internal social performance standard which will evaluate the effectiveness of the standard, supporting identification of gaps and areas for improvement;

– Finalising the outstanding aspects of operational social performance plans;

– Continuing to embed the Global Industry Standard on Tailings Management community requirements for all of our South32-operated TSFs; and

– Continuing to develop our approach and studies on the social impacts and opportunities of closure with a focus on Groote Eylandt Mining Company and Cannington.

Creating Foundations for Trust and Shared Value

Over the last two years we have been conducting early-stage exploration activities at Project Roosevelt in northern Alaska. The area is located within Doyon Traditional Territory, and we have been undertaking early engagement with the Doyon Native Corporation and five tribal villages that live in relative proximity to the activities.

Initial engagement was carried out during COVID-19, a situation that imposed restrictions on holding in-person meetings. Instead, we held a series of webinars to present the project's initial activities, facilitate discussion, and explain control measures to protect flora, fauna and cultural heritage.

After the lifting of COVID-19 restrictions, we commenced in-person visits to the tribal villages that resulted in constructive conversations focused on our summer 2023 drilling campaign. As a result of this early engagement, we sponsored a job fair at one of the tribal villages with the aim of maximising local participation in job opportunities available during the exploration program.

We also sponsored a spring festival in April 2023, which was a special opportunity to bring the different villages together after the restrictive years of the pandemic, allowing a celebration of the tribal traditions around music, food, dog sled and snowshoe races, among other activities.

These activities have provided an initial foundation to start working with the villages on the establishment of funding agreements and an advisory panel, with the goal of providing the tools and resources the villages need to assess and provide feedback on our proposed exploration activities to advance the project.

We are working to establish a relationship with the tribal villages based on mutual trust, respect, and the creation of shared value as a common goal. Seeking to protect the cultural values and natural resources that these communities rely on, from the beginning of our presence in this region, is a strong way to demonstrate our values and our commitment to working collaboratively with Indigenous, Traditional and Tribal Peoples.

OUR SOCIETAL CONTRIBUTION

We seek to create value in the communities where we have a presence and make a positive contribution to society by producing the commodities required in a low-carbon future[1], paying taxes and royalties, providing jobs, developing local suppliers, investing in community programs and providing returns to shareholders.

FY23 at a glance

› Social investment focused on education and leadership, good health and social wellbeing, economic participation, and natural resource resilience

› Increased the proportion of social investment allocated to strategic investments from 82 per cent to 90 per cent

› Established economic development plans for all operations

FY24 focus areas

› Furthering social investment in just transition, climate, nature related, and biodiversity initiatives

› Commencing a stewardship program to evaluate the effectiveness of the implementation of our internal social performance standard requirements related to social investment

› Implementing our new social and labour plan for Hotazel Manganese Mines

Performance snapshot

27.7
US$ million spent on social investment[2].

805
US$ million spent on wages and salaries[3].

920
US$ million paid in corporate income tax[4].

ICMM Principle

| 03 Human Rights | 09 Social Performance | 10 Stakeholder Engagement |

South32 supports the UN SDGs

| 3 GOOD HEALTH AND WELL-BEING | 4 QUALITY EDUCATION | 5 GENDER EQUALITY | 8 DECENT WORK AND ECONOMIC GROWTH |
| 3.8 | 4.4 | 5.1 | 8.5 |

| 10 REDUCED INEQUALITIES | 17 PARTNERSHIPS FOR THE GOALS |
| 10.2 | 17.16 |

UNGC Principle

HUMAN RIGHTS   LABOUR

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(1) Read more in our Addressing Climate Change section on page 88.
(2) Our total social investment comprised US$24.6 million in direct investment (including Enterprise Development), US$2.5 million in administrative costs, and US$0.6 million of in-kind support.
(3) Includes operations at their respective percentage shareholding, including South32's ownership proportion of our manganese equity accounted investments, and excludes Sierra Gorda.
(4) Includes South32's ownership proportion for equity accounted investments.

Our approach

Social investment

We are proud to invest in local communities and contribute to the social, economic, and institutional development of host countries and communities. We design our social investment programs with input from our key stakeholders to reflect their aspirations and needs. This knowledge, combined with other assessments and surveys, informs our decision about investment in communities.

Our focus remains on building community resilience and delivering benefits to local communities from our presence. Where practicable, we employ local people, engage local suppliers across our supply chains, and make social and economic investments in the regions where we operate.

Our social investment is guided by our internal social performance standard, our Code of Business Conduct (Code) and the ICMM Mining Principles, particularly Mining Principles: 3 – Human Rights, 9 – Social Performance and 10 – Stakeholder Engagement. There are growing expectations about the contribution of resource companies to socio-economic development. Our social investments aim to respond to issues which affect society, with our efforts concentrated in areas where we believe we can have the greatest impact and contribute to sustainable improvement. Where, after engaging with communities, we choose to invest in infrastructure projects, we invest in both physical infrastructure and the development of capacity to ensure the sustainability of the investment.

Social investment plans are developed by social performance specialists in consultation with the community and key stakeholders. Operation-specific social investment plans are endorsed by the Vice President of the respective operation and the corporate social investment plan is endorsed by the Chief Legal and External Affairs Officer. These plans cover a three-year period and are reviewed annually so they remain relevant to the needs of our stakeholders and reflect the operating context.

Our social investments are aligned to four key focus areas:

- Education and leadership – supporting lifelong learning and development, nurturing future leaders and promoting equal access to education, with a focus on science, technology, engineering and mathematics;

- Good health and social wellbeing – supporting community health and social wellbeing and promoting inclusion;

- Economic participation – supporting local employment, sustainable livelihoods and diversified local economies; and

- Natural resource resilience – supporting communities to thrive within their environments, conservation and restoration of the natural environment, and the use of natural resources in responsible and sustainable ways.

We measure, monitor and evaluate the impact of our social investments through our social investment impact measurement framework. This provides the evidence base to measure the impact of our social investment, inform future investment decisions, improve project design and report on our performance.

Economic development

The economic value of our presence in communities is an important part of our societal contribution. We develop economic development plans informed by the social and economic community context, as outlined in our internal social performance standard. Economic development plans are reviewed and updated annually and approved by the Vice President of the respective operation. They are complementary to our social investment plans and identify opportunities to contribute to local communities through employment, procurement, business development, and regional economic development.

We provide employment opportunities in the regions where we work, with the aim of creating a workforce that reflects the diverse communities and countries where we operate. We aim to be an employer of choice, providing an inclusive work environment and competitive remuneration to attract, develop and retain talented people. This is supported by our internal inclusion and diversity standard that sets minimum inclusion and diversity performance requirements across all elements of people management, and our internal human resources standard that guides the management of our people.

Supporting local suppliers helps to develop and strengthen local value chains and economies. We source goods and services within local communities, where possible, and set targets at many of our operations for local business spend that take into consideration legislative requirements and local capability. We provide access to skills development and work experience to support the capability and capacity of people and businesses from diverse backgrounds to better enable them to work with us.

We are committed to increasing our procurement of goods and services from Aboriginal and Torres Strait Islander businesses across our Australian locations as part of our Innovate Reconciliation Action Plan (RAP).

Transformation in South Africa

The mining industry plays a critical role in South Africa's economic development as a major contributor to the economy, significant employer and an attractor of foreign investment. However, the racially based foundations upon which the industry was laid and operated until the early 1990s had an adverse effect on South Africa's socio-economic landscape. To address the historical imbalances, the Broad-Based Socio-Economic Empowerment Charter for the South African Mining and Minerals Industry was implemented in 2004 to advance economic transformation and enhance the economic participation of Black People in the South African economy.

Transformation is critical to realising the vision of the South Africa Constitution by opening a path to inclusive economic growth and development. Broad-based transformation creates new resources to support social change, promotes growth, mobilises investment, creates jobs and empowers citizens. To transform our business in South Africa, we focus on local interests. By seeking local talent, suppliers and new business opportunities, we are contributing to improved competitiveness and economic growth.

Inequality combined with inadequate services, electricity demand, healthcare and education can heighten demand for better outcomes and result in protest action causing widespread disruption and impacting production and project development at our operations. We continue to engage with community and government stakeholders to understand these challenges and the opportunities for us to contribute through our social investment and economic development plans.

South Africa's transformation imperative aligns with our purpose. We recognise the role that we play in shaping a better future in South Africa through economic transformation and continue to focus on employment equity, Enterprise and Supplier Development (ESD), social investment, job creation, skills development and local economic development. Growing and developing small, medium, and micro enterprises (SMMEs) through ESD is fundamental to the transformation of the South African economy.

Tax transparency

Taxation payments are an important mechanism for contributing to the economies of the countries where we operate. Our approach is aligned with the ICMM Position Statement on Mineral Revenues and the Extractive Industries Transparency Initiative (EITI), which promotes open and accountable management of mineral resource wealth. The EITI has confirmed that South32 meets all the expectations for supporting companies.

We support the public disclosure of payments made to governments and communities, and the public disclosure by governments on contracts and licences for the exploitation of minerals and other natural resources.

Each year, we publish a Tax Transparency and Payments to Governments Report that shows our tax affairs are conducted in line with our commitment to ethical business practices. This report sets out our approach to tax governance and dealing with tax authorities, details our tax payments to governments by country and project, tax expense and international related party dealings on a country-by-country basis, and our contracts for resource development.

Delivering returns to shareholders

We aim to maximise total shareholder returns and value over time. Our capital management framework guides our capital allocation priorities and returns excess capital efficiently.

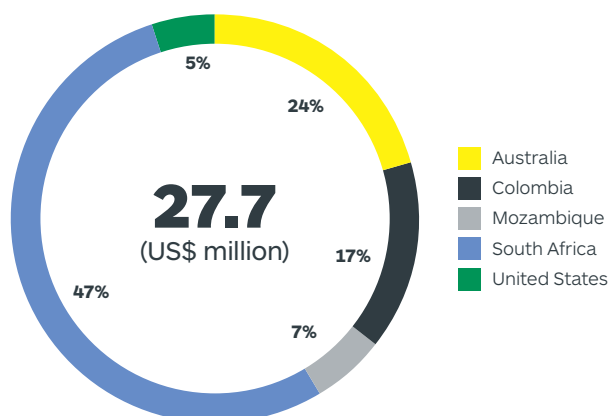## Our performance and progress in FY23

We track our performance against measures in our annual Business Scorecard which is a key determinant of the short-term incentive payments we make to all eligible employees. For FY23, the following measures were in place:

Scorecard measure	Performance
Implement social investment plans on time and on budget.	FY23 social investment was delivered to plan.
Increase proportion of social investment allocated to strategic investment by 10 percentage points, up to a maximum of 90 per cent of social investment budget.	We achieved this target by allocating 90 per cent of social investment to strategic investments, up eight percentage points, from 82 per cent in FY22.
Implement at least one new strategic multi-year social investment with targets that support climate, biodiversity or just transition related outcomes.	We achieved this target by commencing a just transition-related strategic investment at Worsley Alumina and a biodiversity-related strategic investment in Australia with the Australian Wildlife Conservancy.
Develop economic development plans which include local employment and procurement targets at all operations.	We achieved this target by establishing economic development plans for all operations, which include local employment and procurement targets.
Ensure all strategic social investments are measuring outcomes with 90 per cent reaching their FY23 outcome targets.	We achieved this target with all strategic social investments measuring outcomes, and 93 per cent of these reaching their FY23 outcome targets.

We also track our performance against a range of key metrics, shown in full in the 2023 Sustainability Databook. This year our social investment totalled US$27.7 million. Under South African legislation, social investment at Hillside Aluminium is price-linked, which has primarily driven an 11 per cent decrease from US$31.1 million in FY22, following elevated aluminium prices last year. Our direct social investment spend was across our four key focus areas - education and leadership (24 per cent), economic participation (14 per cent), good health and social wellbeing (50 per cent), and natural resource resilience (12 per cent). A breakdown of spend by country is shown below.

This year we increased our alignment with the ICMM Social and Economic Reporting Framework and Guidance. This allows a more comprehensive view of our societal contribution, by disclosing the composition and pay equality across our employee workforce, our local procurement spend, the total investment and beneficiaries of education and skills programs, as well as investment in capacity and institution programs supported during the financial year. More information on our alignment with the ICMM Social and Economic Reporting Framework and Guidance is provided in our 2023 Sustainability Databook available at *www.south32.net*.

Social investment by country

27.7
(US$ million)

5%
24%
17%
7%
47%

- Australia
- Colombia
- Mozambique
- South Africa
- United States

SOCIAL INVESTMENT HIGHLIGHTS

During FY23 we invested

US$27.7 million

in community programs, primarily focused on education and leadership, economic participation, good health and social wellbeing, and natural resource resilience.

Education and leadership

59,500

students across **740** schools in **1,160** communities participated in education and leadership programs funded by South32[2].

>90%

of Clontarf Foundation students enrolled in Worsley Alumina's social investment program reported increased school attendance.

20%

increase in maths pass rates and 29% increase in physical science pass rates at Hotazel Manganese Mines' maths and science development social investment.

Economic participation

7,200

people participated in economic development programs funded by South32, with **2,550** jobs created across **70** communities[2].

100%

increase in Traditional Owner employees since 2019 at Bush Medijina, a Warningakalina women's business on Groote Eylandt in Australia.

1,840

jobs created through the AGROMOZAL program, which helps local farmers in Mozambique to farm more productively, sustainably and competitively.

(2) Actual numbers are greater as information is derived from our social impact reporting which is only applied to strategic long term social investments, a subset of our overall social investment. Impacts from donations, disaster relief and Enterprise Development are not included.

Good health and social wellbeing

61,004
people participated in good health and social wellbeing programs funded by South32, reaching **48,570** households across **170** communities[2].

440
improved houses and **80** new houses constructed through the Cerro Matoso housing improvement program in neighbouring communities resulting in improved living conditions.

96%
occupancy at the Kotulong Community Centre (KCC), a Metalloys social investment that provides a safe place to call home for vulnerable children in Meyerton, South Africa.

Natural resource resilience

25+
non-government organisations participated in natural resource resilience programs funded by South32 to help deliver environmental projects in **30** communities[2].

2,360
hectares of land around Cannington has been treated to reduce, eradicate and prevent weeds.

16%
increase in households practicing water conservation and use of safe water at Mozal Aluminium's access to hygiene and sanitation social investment.

In FY23, our US$27.7 million total social investment comprises of US$24.6 million in direct investment (including US$5.2 million in Enterprise Development), US$2.5 million in administrative costs, and US$0.6 million of in-kind support.

We seek to invest meaningfully in the communities where we operate in line with local priorities. In some countries and jurisdictions specific targets exist, including:

– In South Africa we report our annual progress against targets in the Mining Charter, 2018 to the Department of Mineral Resources and Energy. We also have targets under the Broad-Based Black Economic Empowerment (B-BBEE) Codes of Good Practice of the Department of Trade, Industry and Competition. Targets include spending one per cent of net profit after tax (NPAT) on social investment and three per cent of NPAT on ESD;

– At Cerro Matoso in Colombia, community agreements have annual commitments for social investment spend; and

– As part of our social investment program at Illawarra Metallurgical Coal (IMC) in Australia, community trusts receive A$0.03 per saleable tonne of metallurgical coal to focus on local social investment. Fund distribution is overseen by a board comprised of local community and IMC representatives.

We aim to build long-term community and natural resource resilience through our social investment program and partnerships. Activities we undertook this year include:

– Increasing the proportion of strategic investments with long-term objectives from 82 per cent in FY22 to 90 per cent in FY23, compared to short-term investments such as sponsorships and donations;

– Increasing investment in programs that address biodiversity conservation and restoration, such as the Australian Wildlife Conservancy (AWC) partnership in Australia;

– IMC and Symbio Wildlife Park launched a new three-year partnership to help support koala conservation in the Illawarra and Macarthur regions of New South Wales;

– Progressing the construction of a new outpatient department for a paediatric burns unit at Ngwelezana Hospital, KwaZulu-Natal South Africa, through support from Hillside Aluminium;

– Increasing investment in economic participation at Worsley Alumina to support just transition objectives aligned with community priorities; and

– Conducting capacity and capability building for internal teams responsible for implementing social investment to support the social investment impact measurement framework.

In FY23 we continued to support Bush Medijina, a Warningakalina women's business on Groote Eylandt in Australia. We also continue to provide family and domestic violence support in Australia.

From a broader societal contribution perspective, in FY23, we hired 1,388 new employees and paid US$805 million in wages and salaries. We paid US$920 million in corporate income tax, US$572 million in corporate income tax accrued on profit/loss and US$312 million in royalties, which help fund essential infrastructure and services within the communities where we operate. We aim to maximise total shareholder returns over time, returning US$1,225 million to our shareholders in FY23.

Learn more about our approach to tax in the Tax Transparency and Payments to Governments Report at *www.south32.net*.

Improving Paediatric Burns Treatment

Hillside Aluminium has provided social investment funding over two phases to build a facility to treat children with burns injuries.

The first phase, which commenced in FY19 at a cost of just over ZAR10 million (US$601,700), created a brand new, state-of-the-art, 22-bed paediatric burns unit at Ngwelezana Hospital in the KwaZulu-Natal province, to provide comfort and treatment to children in need.

The facility provides a range of care options from general patients to high care and intensive care unit rooms. This includes dry and wet treatment areas required for the optimal treatment of burns patients and unique, custom-designed air treatment facilities throughout the unit.

The second phase, which commenced in FY22 at a cost of ZAR14 million (US$842,380), is delivering a new outpatient department for the paediatric burns unit. The existing adult burns outpatient department at Ngwelezana Hospital does not meet the special needs of paediatric patients, and the new facility will consist of consultation rooms, wound treatment areas, a four-bed recovery room, a nurse station, a staff room and a play area.

The inpatient and outpatient facilities will sit alongside each other and be experienced as a cohesive facility for the treatment of children with burns injuries. Construction of the outpatient department progressed throughout FY23 and is expected to be completed in late 2023.

This investment aligns with the good health and social wellbeing key focus area of our social investment program.
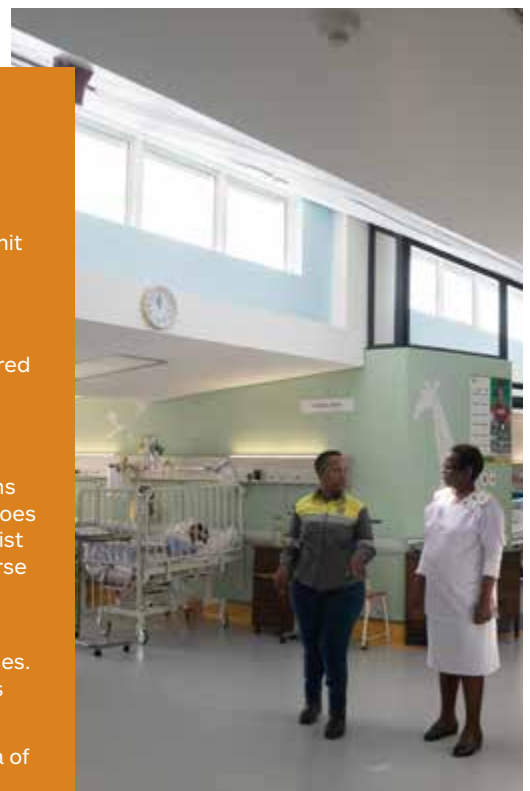
Looking ahead

We will continue to enhance our societal contribution in FY24 and beyond, with planned activities including:

- Furthering social investment in just transition, climate, nature, and biodiversity-related initiatives;
- Commencing a stewardship program to evaluate the effectiveness of the implementation of our internal social performance standard requirements related to social investment;
- Implementing our new social and labour plan for Hotazel Manganese Mines with the aim of promoting economic growth, mineral resources development, employment and advancing the social and economic welfare of local communities.

Contributing to Mozambique's Prosperity

Mozal Aluminium was awarded the Best Exporter of the Year Award in the Large Projects category at the 57th Feira Internacional de Maputo (Maputo International Fair), held in 2022. The award was presented by the President of the Republic of Mozambique, His Excellency Filipe Jacinto Nyusi.

The annual event brings together a cross section of national and international sectors, showcasing the potential of production for export, promotion of business opportunities and investment in Mozambique.

Mozal Aluminium was established in 1998 and is owned by a consortium including South32 (the largest shareholder and operator), the Government of Mozambique and the Industrial Development Corporation of South Africa. At the time, it was the largest industrial project ever undertaken in Mozambique. The aluminium smelter officially opened in 2000, with an expansion project to double its capacity approved in 2001 and commissioned in 2003.

One of the main ways that industrial projects contribute to prosperity is through job creation. In total, approximately 15,000 people were employed during the construction and expansion phases, with 65 per cent of these Mozambican. Currently, Mozal Aluminium employs just over 1,000 people, 97 per cent of whom are Mozambican, and the direct and indirect workforce totals more than 5,000 people.

Another important area of contribution is through stimulating local supply chains. Mozal Aluminium spent more than US$112 million on local procurement in FY23 and to support the development of the downstream aluminium industry in Mozambique, a portion of liquid metal is supplied to Midal Cables, a local company that sells products in the domestic and export markets.

Engaging with local communities to understand their needs and identify opportunities to work together helps create further value. Mozal Aluminium invested US$1.8 million in social investment programs in FY23, with key focus areas aligned with our social investment program.

Further underscoring its broader economic impact, Mozal Aluminium contributes approximately 4 per cent of Mozambique's gross domestic product and paid US$16 million in royalties and dividends to the Government of Mozambique in FY23.

OPERATING ETHICALLY AND RESPONSIBLY

Operating ethically and responsibly is essential to fulfilling our purpose, delivering on our strategy and achieving our aspiration of building strong, mutually beneficial and trusting relationships with our stakeholders. We respect human rights and apply responsible business practices across our value chain.

IN THIS SECTION

ETHICS AND BUSINESS INTEGRITY

We are committed to the highest standards of integrity and accountability. Our values and Code of Business Conduct (Code) guide how we act, work and communicate. Supported by our Speak Up Policy (our global whistleblower policy), we encourage our people to speak up when our values and standards of conduct are not being followed.

FY23 at a glance

› Continued to enhance processes related to our Speak Up Policy and associated business conduct response processes, including EthicsPoint, as part of our commitment to encourage our people to speak up

› Enhanced our risk-based anti-bribery and corruption, sanctions and competition law compliance programs

FY24 focus areas

› Continuing to manage and improve our anti-bribery and corruption, economic sanctions, anti-money laundering and competition law compliance programs, which will help us adapt as our business and the global environment in which we operate change

Performance snapshot

0

regulatory enforcement actions regarding breaches of anti-corruption, anti-money laundering, sanctions and competition laws.

84%

of respondents to our Your Voice employee survey felt workplace misconduct was not tolerated at South32.

ICMM Principle

01 Ethical Business

02 Decision-Making

South32 supports the UN SDGs

10 REDUCED INEQUALITIES

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

10.2   16.5

UNGC Principle

ANTI-CORRUPTION

Our approach

Our Code of Business Conduct

Our Code sets the standards of conduct that we expect of our employees, Directors and executive management, contractors, suppliers and joint venture partners acting on our behalf in a South32 controlled or operated joint venture. It also represents our commitment to acting ethically, responsibly and lawfully. We take a breach of our Code seriously.

All employees must complete our mandatory online Code training, which also raises awareness of our Speak Up Policy. This training is required when joining South32, with follow-up training required in accordance with our internal training plans.

We provide regular reports to our Risk and Audit Committee (RAC) and Board on material business conduct concerns and material breaches of our Code, including data on EthicsPoint reports (a confidential reporting hotline that is serviced by an independent provider) and other indicators of workplace conduct.

We also provide the RAC with ongoing updates on our anti-bribery and corruption (ABC), economic sanctions, and anti-money laundering compliance programs, including relevant legislative and regulatory developments.

> **+** **A copy of our Code is available in multiple languages at _www.south32.net_.**

Speak Up

Our Code contains our global whistleblower policy, known as our Speak Up Policy. It outlines how to report a business conduct concern, what happens when a report is made and how we protect the reporter. We do not tolerate any form of retaliation against anyone for reporting a business conduct concern or cooperating with a related internal investigation.

Our people are supported and encouraged to speak up when our values and Code are not being followed. Anyone can report a business conduct concern, anonymously if preferred, using our confidential and independently administered EthicsPoint reporting hotline. We appreciate this may not be an easy thing to do, and we provide our people with access to mental health and wellbeing support materials, including our Employee Assistance Program, if they need support.

We respond to identified or reported breaches of our Code in line with our Speak Up Policy and related business conduct response processes. All reports received are initially provided to our Business Integrity team for confidential review and case allocation based on their nature, urgency and severity. In some cases, support or guidance is all that is required to resolve a concern. In other cases, where necessary, we will formally investigate the concern.

Our Business Conduct Committee, made up of senior leaders, provides guidance and oversight on material business conduct concerns. Such cases are reviewed by our Business Conduct Committee on a quarterly basis, with a focus on consistent application of our Code and disciplinary outcomes. Actions and behaviours misaligned to our expected behaviours and our Code are carefully managed through our disciplinary processes which may, and has resulted in, disciplinary action up to and including dismissal. Additionally, a Business Integrity and Workplace Behaviour Report is provided to the RAC on a bi-annual basis, which includes a summary of all material business conduct cases active during the relevant period.

Continued to enhance our processes related to our Speak Up Policy and associated business conduct response processes, including EthicsPoint, as part of our commitment to encourage our people to speak up. We also run an EthicsPoint user training program for our relevant trusted employees who have a case management role.

A copy of our Speak Up Policy, available in multiple languages, is contained within our Code, which along with the contact details for our EthicsPoint reporting hotline, are available at _www.south32.net_.

Your Voice employee survey

Our employees' perspectives and feedback are important to us. We survey our employees annually to better understand their day-to-day lived experience, their perceptions of our culture and identify areas for improvement. One of the areas included in the survey is perceptions of workplace misconduct intolerance and response, providing useful insights to help us continuously improve the effectiveness of our programs.

> **+** **For more information see the People and Culture section on page 28.**

Anti-Bribery and Corruption Policy and Program

As part of our commitment to act ethically, responsibly and lawfully, we have an ABC Policy and operate a risk-based ABC compliance program. Our Business Integrity team leads the program design, implementation, risk assessments, monitoring, training, incident response and related continuous program improvement initiatives.

The program focuses on performing enhanced ABC due diligence on third party representatives who will interact with government officials on our behalf, before they are engaged to represent us. Our Business Integrity team also performs enhanced risk-based ABC due diligence and advisory support on identified higher risk suppliers, marketing trading partners and in relation to proposed acquisition and divestment transactions.

Our Business Integrity team is required to review and pre-approve:

– Offering, giving or receiving above modest value gifts, entertainment and/or hospitality;

– Offering or giving community and charitable contributions, and sponsorships;

– Attending any paid political event or activity; and

– Offering or giving any other thing of value to a government official.

Our program includes ABC training for employees that are identified by our Business Integrity team as being at higher risk of potential exposure to bribery and corruption. This training is required when joining South32, with follow-up training required in accordance with our internal training plans.

Our Business Integrity team also supplements this online training with targeted face-to-face training and awareness sessions. Our ABC compliance program also encourages people to speak up and report ABC concerns, including through our EthicsPoint reporting hotline.

We report to the RAC and Board on material breaches of our ABC Policy. Our ABC Policy is available in multiple languages at _www.south32.net_.

Economic sanctions, anti-money laundering and competition law

We operate risk-based economic sanctions, anti-money laundering and competition law compliance programs.

Our Business Integrity team leads our sanctions compliance program, enabling us to quickly respond to an increasingly complex global sanctions landscape. Among other things, our Business Integrity team performs enhanced risk-based sanctions due diligence and advisory support on identified higher risk suppliers, marketing trading partners and in relation to proposed acquisition and divestment transactions.

Competition laws prohibit anti-competitive conduct by companies and individuals. We adopt governance measures aimed at competing fairly, ethically and in compliance with applicable competition laws around the world. We also engage and co-operate with competition law regulators, including with respect to their enquiries and investigations from time to time. Regular training on competition laws is required to be undertaken by employees in management positions and in high-risk functions identified by our Legal team.

Our performance and progress in FY23

We are not aware of any legal action commenced, continuing or completed against us in FY23 regarding breaches of anti-corruption, applicable sanctions or anti-money laundering laws. We are also not aware of any legal action commenced, continuing or completed against us in FY23 regarding breaches of competition laws.

In FY23, our Business Conduct Committee enhanced and approved South32's internal business conduct response procedure, which supports our Speak Up Policy.

During FY23, we undertook a number of ethics and business integrity related initiatives, including:

– Enhancing our internal business conduct response processes to reflect improved case and reporter management processes;

– Continuing the delivery of training (online and face-to-face) to relevant new and existing employees and contractors on our Code (including our Speak Up Policy), and key areas of compliance including ABC, economic sanctions, anti-money laundering and competition law;

– Continuing to manage and improve our ABC, economic sanctions, anti-money laundering and competition law compliance programs, which will help us adapt as our business and the global environment in which we operate change;

– Conducting ongoing focused ABC and sanctions risk assessments, testing the effectiveness of our critical controls at regular intervals, performing monitoring activities and implementing risk-based improvement actions where required, including risk-based ABC and sanctions risk assessments for Mozal Aluminium, Hillside Aluminium, Cerro Matoso and Sierra Gorda;

– Performing enhanced risk-based due diligence and providing advisory support on higher ABC and sanctions risk third parties and transactions;

– Commencing the development of a sanctions compliance monitoring tool for automated, real-time transaction and counterparty screening; and

– Continuing to closely monitor evolving global sanctions and other geopolitical developments.

Looking ahead

As part of our commitment to operating ethically and responsibly, we will continue to manage and improve our compliance programs, adapting as our business and the global environment in which we operate change.

Improving our Sanctions Compliance Monitoring

Internal monitoring is an essential feature of an effective sanctions compliance program to identify potential 'red flag' concerns and prevent breaches of applicable sanctions.

Given the increasingly complex and challenging sanctions environment, our Business Integrity team worked with our Technology function during FY23 to prioritise developing a monitoring tool to further strengthen our existing sanctions compliance internal controls and stewardship activities.

Among other things, the tool further enhances our existing counterparty risk identification and due diligence processes by connecting various data sources to automate monitoring in a more real-time environment based on pre-determined risk factors, to highlight activities warranting closer internal compliance scrutiny.

The tool automates the various data sources into a user-friendly suite of online dashboards. This enables our Business Integrity team to more effectively identify and respond to issues requiring closer attention, with the aim of further mitigating sanctions compliance risk.

The first phase of this continuous improvement project is targeted for release in FY24, with further enhancements envisaged thereafter.

HUMAN RIGHTS

Our commitment to respecting human rights is a vital part of our approach to sustainability, not only because it is the right thing to do, but because it reflects our values and is critical to sustainable business practice. We manage human, environmental and security risks to protect people and safeguard their rights.

FY23 at a glance

› Updated Our Approach to Human Rights

› Completed Human Rights Impact Assessments at four operations and conducted Human Rights Risk Self-Assessments at a further three operations and one project

› Continued our engagement across the business on the nexus between climate change and human rights, focusing on just transition and the risks to human rights of renewable energy sources

FY24 focus areas

› Continuing to integrate human rights within our System of Risk Management

› Developing a human rights capability building strategy to provide targeted training across the company

› Updating our human rights self-assessment tool

Performance snapshot

474
employees and external security personnel completed Voluntary Principles on Security and Human Rights training.

759
employees completed modern slavery training and 220 employees completed introductory human rights training.

67%
of operated operations completed a Human Rights Impact Assessment (HRIA) or Human Rights Risk Self-Assessment (HRRSA) and 22 per cent commenced their HRRSAs in FY23.

ICMM Principle

| 02 Decision-Making | 03 Human Rights | 04 Risk Management |

South32 supports the UN SDGs

| 8 DECENT WORK AND ECONOMIC GROWTH | 16 PEACE, JUSTICE AND STRONG INSTITUTIONS |
| 8.7 | 16.2 |

UNGC Principle

HUMAN RIGHTS   LABOUR

Our approach

We are committed to respecting internationally recognised human rights as set out in the International Bill of Rights (comprising the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, and the International Covenant on Economic, Social and Cultural Rights) and the International Labour Organization Declaration on Fundamental Principles and Rights at Work.

Our approach is guided by the United Nations Guiding Principles on Business and Human Rights (UNGPs), the United Nations Global Compact Principles, the Voluntary Principles on Security and Human Rights (VPSHR), the UN Declaration on the Rights of Indigenous Peoples and the ICMM Mining Principles, particularly Mining Principles: 2 – Decision Making, 3 – Human Rights and 4 – Risk Management. We operationalise our commitments through Our Approach to Human Rights and our internal social performance standard.

While we work to respect the rights of all stakeholders, we particularly focus our efforts on those people most vulnerable to harm, marginalised or at-risk groups, including Indigenous, Traditional and Tribal Peoples.

Human rights due diligence

Under the UNGPs, businesses are responsible for respecting human rights. We conduct ongoing human rights due diligence across our operations and business relationships to help us identify, assess, mitigate and remediate where we are responsible for any involvement in human rights risks. We understand and respond to the increasing need for transparency on our human rights due diligence and management approach from third parties, including investors and customers, and actively engage with these stakeholders to enhance awareness of our activities.

Our ongoing human rights due diligence helps us to identify, prevent, mitigate and account for how we address any involvement in human rights risks across our operations (including tailings storage facilities (TSFs)) and business relationships. Our human rights due diligence includes Human Rights Impact Assessments (HRIAs), Human Rights Risk Self-assessments (HRRSAs) and supplier human rights assessments.

Key areas of human rights risk include:

- Workplace health, safety and labour conditions, including freedom from slavery, rights to freedom of association and collective bargaining;
- Equality and non-discrimination, including gender equality, inclusion and diversity and transformation in South Africa;
- Access to water and sanitation;
- Impacts of security services on human rights; and
- Impacts on the rights of communities that live near our operations, including Indigenous, Traditional and Tribal Peoples.

In July 2022 the United Nations General Assembly declared that everyone has a right to a healthy environment. This development aligns to the emergence of increased regulation and legislation linking the environment and human rights, including by recognising the right to a clean, healthy and sustainable environment. In FY24 we plan to work with our Environment and Climate Change teams to integrate human rights considerations into our business activities.

Providing accessible and safe grievance and redress channels for stakeholders to raise complaints about human rights remains an important part of our approach, together with supporting remediation through legitimate processes where we identify a contribution to an adverse human rights impact.

We expect the suppliers we work with to share our values, standards of conduct and to respect human rights, as set out in our Code of Business Conduct (Code) and our Sustainability and Business Conduct - Minimum Supplier Requirements. Where possible, we encourage our non-operated joint venture partners to adopt standards of conduct which are consistent with ours.

Learn more about Our Approach to Human Rights, including meeting our commitment, the principles we follow to meet our commitment and our management approach at *www.south32.net*.

Labour rights

We align with relevant labour relations laws and regulations, including those relating to working hours, working conditions, entitlements to minimum wages and the right to choose unions or association representatives. Our minimum requirements for suppliers state that wages and benefits (including overtime) paid for a standard working week, must satisfy, at a minimum, national legal standards or local industry benchmarks. We work with reputable recruitment agencies and pay for the cost of recruitment activities.

+ **Learn more about our approach to minimising the risk of modern slavery in our business in our Modern Slavery Statement at *www.south32.net*.**

Our performance and progress in FY23

We track our human rights performance against a range of key metrics, shown in the 2023 Sustainability Databook.

Embedding human rights

In FY23 Our Approach to Human Rights was updated to detail the governance framework we have in place to embed the UNGPs across our business and to include the human rights requirements of the Global Industry Standard on Tailings Management (GISTM).

We continue to embed the requirements of our internal social performance standard, which encompasses human rights. To support our internal standard, this year we developed a human rights guidance note to further guide human rights risk identification and due diligence, rights-based approaches to remedy activities, and minimum standards for conducting HRIAs.

We also continued to strengthen our cross-functional approach to understanding, managing and embedding our approach to human rights across the business. Our Human Rights Working Group (HRWG) held three meetings during the year, bringing together stakeholders from across our operations as well as functional representatives from Legal and External Affairs, Commercial, Human Resources, Corporate Development and Technical Stewardship. This year the HRWG meetings covered in-depth reviews on the Hillside Aluminium and Mozal Aluminium HRIAs, just transition and climate change, due diligence, complaints and grievance mechanisms, Indigenous, Traditional and Tribal Peoples and cultural heritage. The HRWG also reviewed and provided feedback on the human rights training module and the VPSHR training deployment approach.

Our Modern Slavery Working Group (MSWG) engages relevant South32 functions to share insights on their strategy and processes relating to human rights risks and modern slavery. We continued our engagement across the business on the nexus between climate change and human rights, focusing on just transition and the risks to human rights of renewable energy sources. We identified potential risks relating to procurement of components required for renewable energy technologies and engaged with relevant supply teams about sourcing strategies. We commenced preparation of our Modern Slavery Allegation and Incident Response Guideline (Response Guideline) to provide guidance regarding our response to a modern slavery allegation or incident in our operations, supply chains (including contractors engaged as part of our operations) or other business relationships. The Response Guideline, which we plan to finalise in FY24, is aligned with high-level industry guidance provided by Walk Free, an international human rights group dedicated to eradicating modern slavery in all its forms, and the Human Rights Resources and Energy Collaborative's (HRREC) Modern Slavery Response and Remedy Framework[1]. It is also aligned with our guidance for investigations and provides specific additional guidance on implementing these policies and procedures in relation to an allegation of modern slavery.

In addition to our internal working groups, we participated in a number of collaborative human rights initiatives this year, including the Sustainable Shipping Initiative, the UN Global Compact Network Australia Modern Slavery Community of Practice, the Human Rights Resources and Energy Collective and relevant ICMM working groups.

Training and awareness

Training and awareness are an essential part of embedding human rights into our business. As outlined in our Sustainability Committee Terms of Reference, available at *www.south32.net*, our Board is required to understand human rights issues and the potential human rights impact of our business on stakeholders. In October 2022, the Sustainability Committee received a briefing on the recognition by the UN General Assembly of a new human right to a clean, healthy and sustainable environment. For our employees and agency contractors, we provide information about human rights on our intranet, and in relevant internal standards and procedures. All employees and contractors must also complete our mandatory online Code of Business Conduct (Code) training, which also refers to human rights.

Our suite of human rights training includes an introductory module, and two learning modules on modern slavery and security. In FY23, these modules were available to all employees and assigned to selected employees based on role. This year, 206 employees and 268 external security guards were trained in VPSHR.

In FY23, we reviewed the introductory module to more directly align with Our Approach to Human Rights. This module provides employees with an overview of the UNGPs, South32's role in respecting human rights, the potential impacts to people because of our activities and our responsibility to provide effective grievance mechanisms. The training has been developed with input from external human rights experts to align with the UNGPs. The training is planned to be released in early FY24 to all employees and mandated for identified employees and selected agency contractors.

This year, we also reviewed the assignment of the Modern Slavery and VPSHR training modules. Both training modules are required to be completed every two years. In FY24, we plan to develop a human rights capability building strategy to provide targeted training across the company.

Members of our Sustainability Strategy Team also participated in the UN Global Compact Business and Human Rights Accelerator program to build human rights knowledge across the company, identify and manage human rights risks, conduct due diligence and develop action plans.

Human rights due diligence

Our internal social performance standard outlines the requirement that operations located in countries where human rights risk is considered high, undertake a HRIA at least every five years. Exploration activities and operations in countries that are low risk for human rights, are required to undertake an annual HRRSA. Operations located in high-risk countries are also required to undertake annual HRRSA's, except for the years when HRIAs are conducted.

In FY23, HRIAs were completed for the Hotazel Manganese Mines, Mozal Aluminium and Hillside Aluminium. The most salient human rights risks identified included workers' rights, community health, safety and environment, access to remedy, the rights of vulnerable people and the potential impacts of security services. While many of the risks identified are currently managed through established controls, the results of the HRIAs prompted a review of current measures and the development of new measures to improve risk management, including:

– Updating stakeholder mapping, identification, and communication methods to improve accessibility and effectiveness of engagement;

– Improving awareness, appropriateness and the accessibility of grievance mechanisms for internal and external stakeholders;

– Integrating human rights considerations across existing controls, plans and assessments, including those relating to health, safety and environment; and

– Improving human rights training practices across employees and contractors, including offering training to external stakeholders.

(1)   Available from: *https://cdn.walkfree.org/content/uploads/2022/07/12132831/Walk-Free-Response-and-Remedy-Framework-1.pdf*

In FY23, a HRIA for Cerro Matoso was completed by an independent third party engaged by the operation, specifying real, perceived and potential human rights issues, as well as a gap analysis of Cerro Matoso's human rights practices against international human rights standards. Included in the assessment was a review of Cerro Matoso's policies, organisational culture, approach to strengthening safety and occupational health, the performance evaluation of contractors and suppliers, training, and implemented measures and controls for environmental and social impact management.

Improvement opportunities were identified for rights associated with:

– Security (due to the presence of illegal armed groups that wish to access the benefits derived from mining activities in the region);

– Rights of Indigenous, Traditional and Tribal Peoples;

– Environmental conditions;

– Adequate standards of living and work; and

– Access to information and participation.

During the assessment, independent interviews and focus group sessions were conducted with stakeholders, including communities, employees, contractors, and suppliers. Recommendations for addressing the identified issues were developed through a series of six workshops (facilitated by the external HRIA team with representatives from Cerro Matoso) and include:

– Improving stakeholder engagement;

– Implementing enhanced mechanisms to build trust and transparency in environmental monitoring;

– Engaging with third parties and local authorities to identify opportunities for collaboration on several issues, including health, safety and security; and

– Improving awareness of South32 local supply opportunities.

An impact identified in the HRIA included the perceived impacts on the right to health of communities in the region resulting from the activities of Cerro Matoso and other other mining companies in the region. Cerro Matoso has established management measures to manage environmental impacts, and the potential risk on human health. This includes monitoring conducted jointly with trained members of the community, and community engagement. In FY24, South32, together with members of the community and relevant third parties, will identify measures to enhance the level of involvement of the community in the participatory environmental monitoring program, with the aim of improving trust and transparency.

This year HRRSAs were conducted at Illawarra Metallurgical Coal (IMC), Cannington, Groote Eylandt Mining Company (GEMCO) and the Hermosa project with each reviewing their current risks, controls and any change in operational or external context that would affect their risk profile. Hermosa's FY23 HRRSA was updated to include the recommendations of the social impact and opportunity assessment that was completed in FY22. Human rights related risks identified from the HRRSAs are shown in the table below and align with existing risks managed across the company. Controls were reviewed for effectiveness and updated where gaps were identified.

Operation	Human rights related risks (as per self-assessments)
Cannington	Perceived and real health and safety impacts on communities
	Impacts on cultural heritage
	Workplace health and safety
	Labour rights – equality in the workplace
IMC	Labour rights – equality in the workplace
	Access to water
	Impacts on cultural heritage
Hermosa project	Access to water
	Labour rights – equality and discrimination in the workplace
	Impacts on cultural heritage including loss of access to sacred areas
	Risks to community from unrest caused by lack of employment and procurement opportunities

In FY23, Worsley Alumina commenced a full review of its HRRSA, to align their process with the requirements of the Aluminium Stewardship Initiative (ASI). Representatives from various teams across the operation, including Environment, Approvals, Cultural Heritage, Health and Safety and Human Resources participated in a workshop, facilitated by external human rights experts, to identify risks, impacts and controls aligned with the UNGP framework and ASI. The HRRSA is expected to be completed in early FY24.

GEMCO and IMC also participated in externally facilitated workshops to review and update their HRRSAs. These workshops were an opportunity to engage directly with team members who are responsible for managing human rights risks, conduct training on human rights risk assessments and build capacity across operational teams. GEMCO's HRRSA is expected to be completed in the first half of FY24.

This year we trialled a modified HRRSA tool for use across global exploration activities. The tool was customised to better suit the assessment of human rights risks for exploration and in FY24 we plan to assess the usefulness of the tool and update it if necessary.

Our activities to manage the risk of modern slavery across our supply chain are provided in our annual Modern Slavery Statement in response to the Australian *Modern Slavery Act 2018* (Cth) and the United Kingdom's *Modern Slavery Act 2015*.

+ **Learn more in our Modern Slavery Statement at *www.south32.net*.**

Remedy

We are committed to providing accessible and safe grievance and redress channels for stakeholders to raise complaints about human rights, and where we identify that we have caused or contributed to an adverse human rights impact, we will provide for or cooperate in its remediation through legitimate processes.

Our community complaints and grievance process is aligned with the UNGPs and the UN's Protect, Respect and Remedy Framework. Reports relating to human rights that are made to our EthicsPoint confidential reporting hotline are triaged and managed through the internal business conduct reporting procedures. Read more on our internal business conduct reporting procedures on page 50. In FY23, we commenced recording any significant recommendations from external audits of suppliers in EthicsPoint. This allows for the recommendations to be managed according to business conduct response processes.

Refer to our Modern Slavery Statement for more information on external audit activities.

No reports relating to human rights were made through our community complaints and grievance mechanisms.

+ **Learn more about our community complaints and grievance mechanisms on page 38.**

Looking ahead

As we continue to manage human rights, activities planned for FY24 and beyond include:

– Continuing to integrate human rights within our South32 System of Risk Management;

– Conducting a Group wide assessment, incorporating existing operations due diligence and additional business activities, to understand our most significant human rights risks and identify priorities for our human rights program;

– Updating our human rights self-assessment tool for use across our controlled business activities;[2]

– Commence the roll-out of the revised introductory human rights training module;

– Identifying opportunities to integrate human rights into our environmental management approaches; and

– Developing a human rights capability building strategy to provide targeted training across the company, depending on exposure.

Building Human Rights Capacity

While all employees can impact human rights and all employees are responsible for upholding our commitment to respecting human rights, there are employees and teams that have, through their roles, increased exposure and requirements to understand and manage human rights.

In recognition of this, in FY23 we commenced targeted human rights-related capacity building activities across our business.

We undertook awareness building sessions with Supply teams responsible for the procurement of goods required for renewable energy, highlighting the risks within the supply chain of these products, building awareness of the nexus between climate change and human rights and strengthening relationships to encourage knowledge sharing.

Deep-dive sessions on human rights due diligence were held for our HRWG. Most members of the HRWG are, or a part of a team who are, responsible for conducting human rights due diligence. We discussed why and how to conduct human rights due diligence and importantly, how these activities can either be conducted alongside existing due diligence activities or performed as standalone processes, depending on the context and risk.

Teams at IMC, GEMCO and Worsley Alumina participated in workshops externally facilitated by human rights experts, building capacity and skills to enhance their ability to identify and manage human rights risks. Workshop attendees included representatives from our Environment, Tailings Governance, External Affairs, Human Resources, Health and Safety, and Supply teams. IMC completed their HRRSA in FY23, and GEMCO and Worsley Alumina are expected to complete their HRRSAs in FY24.

The learnings from these targeted activities will be fed into the process of developing a human rights capability building strategy in FY24.

(2) Human rights guidance note defines 'controlled business activities' as operated and controlled operations, projects and other activities (operated / controlled exploration; development of new projects; mergers, acquisitions and divestments; operations (mining, processing, tailings storage facilities) or operations (offices); activities performed by key functions.

RESPONSIBLE VALUE CHAIN

We seek to apply responsible business practices throughout our value chain by sourcing responsibly and enhancing product stewardship. Our aim is to build strong, mutually beneficial relationships with stakeholders and to work with suppliers and customers whose values and conduct align with ours.

FY23 at a glance

› Exceeded our Enterprise and Supplier Development spend target by 81 per cent

› Direct spend with Aboriginal and Torres Strait Islander businesses increased by 18 per cent year-on-year

› Completed targeted analysis of Scope 3 GHG emissions in our purchased goods and services supply chain and identified key suppliers to engage on possible GHG emissions reduction opportunities

FY24 focus areas

› Improving our understanding of Scope 3 emissions in our upstream purchased goods and services supply chain

› Continuing to support the growth of the business environments in South Africa and Colombia though our ESD and local procurement programs, respectively

› Participate in the Raising the Bar Initiative to increase spending with the Indigenous business sector in Australia

Performance snapshot

14.7
US$ million spent on Enterprise and Supplier Development[1].

30
A$ million of procurement from Aboriginal and Torres Strait Islander businesses, an 18 per cent year-on-year increase[2].

1,017
US$ million spent on local procurement[3].

ICMM Principle

01 Ethical Business	02 Decision-Making	03 Human Rights
08 Responsible Production	09 Social Performance	10 Stakeholder Engagement

South32 supports the UN SDGs

4 QUALITY EDUCATION	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
4.4	8.7	9.3	12.6

16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS
16.2	17.16

UNGC Principle

HUMAN RIGHTS   LABOUR

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(1) Enterprise and Supplier Development (ESD) consists of two activities, Enterprise Development and Supplier Development. The Enterprise Development component, which was US$5.2 million in FY23, is captured in both the ESD total and the social investment total.

(2) Target set in FY21 as 10 per cent year-on-year increase in procurement of goods and services from Aboriginal and Torres Strait Islander businesses.

(3) Local procurement is the direct purchase of goods and services within the local communities in which South32 operates. Suppliers are deemed as local based on their proximity to our local communities, including boundaries defined by local government areas, provinces and states.

Our approach

Responsible sourcing

Our approach to responsible sourcing is built on a partnership model with our suppliers that aims to minimise health, safety, environmental, human rights, and other social risks. We aim to work only with suppliers with strong values and standards of conduct and that share our commitment to lawful business practices. Our expectations of suppliers are outlined in our Code of Business Conduct (Code) and Sustainability and Business Conduct - Minimum Supplier Requirements. We are guided by the ICMM Mining Principles: 1 – Ethical Business, 2 – Decision Making, 3 – Human Rights, 8 – Responsible Production, 9 – Social Performance and 10 – Stakeholder Engagement.

We aim to work with suppliers that demonstrate standards and behaviour that are consistent with our Code. Risk assessment and tiering tools help us understand supplier risks and guide us in the implementation of an appropriate supplier management approach. These risks may be associated with a supplier's scope of work or the supplier profile, and may relate to safety, security of supply, business integrity, modern slavery, or liquidity risks, amongst others. We work with our Business Integrity team and other experts to identify supplier risks and opportunities and establish evaluation and due diligence criteria, as well as risk-based control activities. These inform our management approach, with specific requirements agreed with suppliers and integrated into supplier management plans.

Suppliers of services are inducted through our contractor management process, which was set up to strengthen safety and performance of our contracting partners. The process outlines clear supervision, accountability, and performance requirements and provides the basis for operational audits through our stewardship program against our internal contractor management standard.

Responsible marketing and product stewardship

Our approach to the stewardship of our commodities relies on accepted best practices for their handling, transportation and use. As part of our commitment to the safe stewardship of our traded commodities, we maintain up-to-date safety data sheets based on the latest available criteria and testing.

We are guided by the ICMM Mining Principles, particularly Mining Principles: 1 - Ethical Business, 2 - Decision making, 3 - Human Rights, 8 - Responsible Production, and 10 - Stakeholder Engagement, as well as industry bodies and commodity associations relevant to our products. These include the International Manganese Institute, the International Lead Institute, the International Zinc Institute, the International Aluminium Institute, the Aluminium Stewardship Initiative, the Australian Coal Industry Research Program and the National Alliance for Advanced Transportation Batteries.

Enterprise and Supplier Development in South Africa

We support the development and growth of small, medium, and micro enterprises (SMMEs), which contribute to the South African economy as it transitions towards fair economic distribution and the alleviation of poverty. We aim to work with an increasing number of Black-owned suppliers and support them to progress beyond the 51 per cent level of Black ownership defined by the South African Broad Based Black Economic Empowerment Codes. We identify existing and potential suppliers to support socio-economic development in local communities. Our supplier partnerships comply with our operational Social and Labour Plans, the *Broad-Based Black Economic Empowerment Act, 2003,* Mining Charter, 2018 *and the Minerals* and *Petroleum Resources Development Act, 2002.*

Aboriginal and Torres Strait Islander procurement in Australia

Supporting Aboriginal and Torres Strait Islander businesses is fundamental to achieving our purpose. We engage with Aboriginal and Torres Strait Islander suppliers at different levels of our supply chain, with local sourcing teams explaining to prospective suppliers our procurement processes and how to work with South32. We also work closely with our contractors to facilitate relationships with Aboriginal and Torres Strait Islander suppliers.

New Enterprise Established

Our work with SMMEs on Enterprise and Supplier Development supports economic and social transformation in South Africa.

Hotazel Manganese Mines (HMM) has supported the establishment of a local cleaning detergent manufacturing plant and company, Envirodet. HMM provided a ZAR5 million interest-free loan to two young entrepreneurs, who were providing cleaning services to HMM before forming Envirodet, to help them realise their dream of establishing the plant.

HMM also provided an additional ZAR380,000 grant to the company for the supply and installation of a water purification system. We believe there is a place for both loans and grants in the development of SMMEs and we will continue to use both mechanisms where appropriate.

In addition to these two forms of funding, HMM is supporting Envirodet in the trial and testing process, with the aim of their products meeting HMM standards so we can start procuring cleaning detergents from them.

The manufacturing plant is expected to create approximately 23 local jobs in its first phase, and was officially opened in FY23.

Our performance and progress in FY23

We track our performance against a range of key performance metrics and targets, shown in full in the 2023 Sustainability Databook.

Metric	Unit of Measure	Target	FY23	FY22	FY21	FY20	FY19
Enterprise and Supplier Development spend[1]	Spend in US$ million	US$8.1 million[2]	14.7	17.5	5.3	5.6	8.7
Business development support[3]	No. of SMMEs participating	No target[4]	153	60	37	172	59
Funding support	No. of SMMEs participating	No target[4]	129	170	60	27	35
Procurement from Aboriginal and Torres Strait Islander businesses (Reconciliation Action Plan commitment)	Spend in A$ million	10% Growth Year on Year[5]	30.4	25.7	18.9	16.0	16.1
Local procurement[6]	Spend in US$ million	No target	1,017.4	906.9	855.8	862.1	Not available
Proportion of spending on local suppliers[6]	Percentage of procurement spend	No target	22.6	28.9	20.7	22.7	Not available

(1) ESD consists of two activities, Enterprise Development and Supplier Development. The Enterprise Development component, which was US$5.2 million in FY23, is captured in both the ESD total and the social investment total.
(2) Targets for South African ESD spend are based on 3 per cent net profit after tax (NPAT) measured in US$ million. FY23: 8.1; FY22: 10.71; FY21: 4.73; FY20: 5.62; FY19: 9.34.
(3) Number of businesses that graduated from or Supplier Development Support program.
(4) Dependent on applications and ESD spend targets.
(5) Target set in FY21 as 10 per cent year on year increase in procurement of goods and services from Aboriginal and Torres Strait Islander businesses.
(6) Local procurement is the direct purchase of goods and services within the local communities in which South32 operates. Suppliers are deemed as local based on their proximity to our local communities, including boundaries defined by local government areas, provinces and states.

We currently work with more than 5,623 direct suppliers and 195 customers across our value chain. During FY23, local procurement across our operations increased by US$111 million compared to FY22, comprising 22.6 per cent of total non-traded procurement spend.

We collaborate and work with SMMEs on Enterprise and Supplier Development (ESD) in South Africa. In FY23, we exceeded our target for ESD spend of US$8.1 million with a total spend of US$14.7 million on a smaller number of SMMEs who were provided funding support. We hold local supplier events to highlight opportunities and provide development programs that help small businesses become procurement ready, increase sales, build competitiveness and enter the value chain of large companies, including South32. This year we continued to provide training to SMMEs to help to meet their needs, providing training on financial management, corporate governance, health and safety, human resources and modern slavery.

At HMM we hosted the 2023 Annual SMME Summit in Hotazel. This event was open to all local stakeholders, with the aim of sharing information on our transformation journey. During the summit we shared information on our tender processes and how to become a supplier to South32, as well as upcoming opportunities for the local community.

This year, Hillside Aluminium once again took part in Zululand Chamber of Commerce and Industry (ZCCI) Procurement, Supply Chain and ESD Indaba Expo. This event provides a platform for small and emerging businesses to network, including 15 of our ESD beneficiaries, who we helped to showcase.

During FY23, an additional 153 businesses graduated from our Supplier Development Support program.

We remain committed to providing genuine access and support to build the capability and capacity of Aboriginal and Torres Strait Islander businesses where we have a presence. We aim to participate in the Raising the Bar Program in FY24, a joint initiative of the Business Council of Australia and Supply Nation to increase spending with the Indigenous business sector and improve socio-economic outcomes for Aboriginal and Torres Strait Islander communities.

At our Australian operations, our direct spend with Aboriginal and Torres Strait Islander businesses increased by 18 per cent compared to FY22. We continue to drive several initiatives, including supplier open days, reduced payment terms (14 days for qualifying Aboriginal and Torres Strait Islander businesses) and access to the internal supplier portal of pre-qualified Aboriginal and Torres Strait Islander businesses.

At Worsley Alumina, following goods contract awards in FY22, FY23 saw the award of the operation's first major site services contract to a 100 per cent Indigenous owned supplier.

We plan to release our second Innovate RAP, which focuses on increasing Indigenous employment and procurement in 2023. For more information on our RAP refer to page 39.

Greenhouse gas emissions reduction across the value chain

Forging strong relationships with value chain partners is an important part of reducing greenhouse gas (GHG) emissions across the value chain. We work together to reduce GHG emissions by sharing insights, enhancing monitoring and reporting, developing scalable innovation and linking performance to targets.

Tracking Scope 3 GHG emissions and capturing accurate data can be a challenge when operating across multiple countries. In FY23, we developed an approach to track and influence the reduction of Scope 3 GHG emissions associated with suppliers. This involved a targeted analysis of Scope 3 GHG emissions in our purchased goods and services supply chain, which allowed us to identify key suppliers to engage on possible supplier GHG emissions reduction opportunities. We continue to identify potential partners for collaboration on Scope 3 GHG emissions reduction, particularly those partners who provide goods and services to South32.

Our dedicated carbon markets team, established in FY22, manages our position in carbon markets and the associated due diligence requirements. This team works with the business to provide due diligence guidance on the procurement of renewable energy solutions and carbon offsets.

Strengthening data and partnerships in shipping

While we do not own ships or directly employ seafarers, we collaborate with ship owners and operators to conduct due diligence, assess human rights risks and support seafarer welfare. In FY23, we completed a review of the bulk shipping risks posed by our products and refreshed all testing against the assessment criteria specified by in the International Maritime Dangerous Goods Code, the International Maritime Solid Bulk Cargoes Code and the International Convention for the Prevention of Pollution from Ships. This provides a best practice benchmark for our controls and the advice we give supply chain partners and customers on safely handling and using our products.

We conducted independent audits on three ship managers to examine any risks, including modern slavery risks. We continue to participate as a member of the Sustainable Shipping Initiative, which is a multi-stakeholder collective to contribute to a more sustainable maritime industry.

In FY23, a key focus was monitoring the European Union (EU) Carbon Border Adjustment Mechanism (CBAM) reporting requirements. To comply with CBAM requirements, we are actively working on developing the reporting processes for our aluminium and ferronickel products sold into the EU.

From 1 January 2024, shipping will be included in EU's Emissions Trading System (EU ETS). Shippers will have to buy carbon permits to cover at least 40 per cent of their emissions impacting the freight rates for our commodities and raw materials shipped to and from the EU. With our new emissions dashboard and increased transparency in data, we can better understand the impact on costs and ship our products and raw materials more economically and responsibly.

In 2022, South32 and KCC Chartering AS, a subsidiary of Klaveness Combination Carriers (KCC) agreed on a sustainability framework to reduce carbon emissions from KCC's fleet. From January 2023, freight paid as part of the Contract of Affreightment is linked to the carbon emission performance of KCC's vessels.

Following a comprehensive mapping of our maritime emissions transporting our products and raw materials, we are collaborating with value chain partners ZeroLab and KCC on carbon abatement opportunities.

Sustainability standards and certifications

Customers expect transparency in their supply chains to better understand the origins of the products they purchase. Sustainability credentials from independent associations can reinforce environmentally responsible practices and stakeholder confidence in certain products.

The absence of internationally harmonised sustainability standards has led to varying levels of maturity in sustainability requirements across different countries and regions. We continue to operate in an environment of uncertainty and expect the regulatory landscape and customer requirements to become increasingly stringent.

Demand continues to grow for Aluminium Stewardship Initiative (ASI) Certification which provides our aluminium customers with independent assurance of our commitment to sustainability and responsible practices in our value chain.

In August 2023, Mozal Aluminium successfully obtained full ASI Performance Standard Certification.

The ASI Performance Standard defines environmental, social and governance principles and criteria with the aim of addressing sustainability issues in the aluminium value chain. This is not only the first ASI Certification in Mozambique, but also the first certification of an ASI Production and Transformation Member in Sub-Saharan Africa.

In April 2023, the Mineração Rio do Norte (MRN) bauxite mine, which we hold an interest in, successfully obtained ASI Chain of Custody (CoC) Certification against the ASI CoC Standard, allowing the South32 share of Brazil Alumina production to be ASI CoC certified. This standard complements the ASI Performance Standard validating responsible production and product sourcing, and accounting for material flow from bauxite mining through to alumina production at Brazil Alumina.

In FY23, Hillside Aluminium and Brazil Aluminium continued to work towards achieving London Metal Exchange (LME) brand certification against the LME Responsible Sourcing requirements needed to qualify as an LME-listed brand and trade on the LME.

In December 2022, we received an updated South32 group-level sustainability scorecard and silver medal rating from EcoVadis, an international sustainability ratings service which reviews organisational sustainability performance and develops scorecards that can be shared with value chain partners. The sustainability scorecard shows South32's performance against peers across four themes: environment, labour and human rights, ethics and sustainable procurement. We continue to request customers to provide their Modern Slavery and Conflict Minerals Statements as part of our social risk due diligence activities. This is an important part of furthering transparency of sustainability performance in the value chain.

Other responsible business activities

In FY23, we continued to apply responsible business practices throughout our value chain.

We enhanced due diligence processes for onboarding new trading partners and raw material suppliers to manage counterparty, financial, legal, business integrity and reputational risks. The due diligence process includes risk-based anti-corruption, anti-money laundering and sanctions compliance, with support from our Business Integrity team. We also focused on optimising critical supply processes, implementing our enhanced System of Risk Management and supply stewardship program.

South Africa continues to experience challenges associated with disruptions to electricity supply. In collaboration with Solana Energy, South32 launched a sustainable solar solution in KwaZulu Natal, South Africa. The multi-phased project involves the establishment of solar power infrastructure in the Richards Bay and King Cetshwayo District economic regions, which is expected to add between 2 to 2.5MW of renewable energy capacity to the local grid, helping businesses that supply Hillside Aluminium to start seeing the benefits of renewable electricity. This year we have completed the construction of a purpose-built solar training academy, located at the South32 ESD Centre, with the first intake of 14 learners completing a 10-week skills development program. The initiative has identified four solar generation projects and created 16 new jobs for previously unemployed Black youth. Work is underway to launch into residential markets. This project highlights how effective purpose-driven partnerships can make a difference in the lives of individuals and communities.

Looking ahead

As we progress our responsible value chain initiatives, in FY24 and beyond we are focused on:

– Improving our understanding of Scope 3 emissions in our upstream purchased goods and services supply chain, including the accuracy of our data capture, understanding and methodologies, and collaborating with key suppliers on Scope 3 emissions reduction initiatives;

– Continuing our ESD program which focuses on local community and supplier engagements;

– Identifying modern slavery risks in our value chain and integrating activities across suppliers and customers;

– Scoping opportunities for decarbonisation of maritime emissions;

– Furthering our ESG due diligence activities across the value chain;

– Participating in the Raising the Bar Initiative to increase spending with the Indigenous business sector in Australia; and

– Progressing with our RAP commitments.

Helping Indigenous Businesses Grow

Our Reconciliation Action Plan includes a commitment to increase our procurement of goods and services from Aboriginal and Torres Strait Islander businesses.

At Illawarra Metallurgical Coal (IMC), we supported the establishment of a new Aboriginal and Torres Strait Islander business in FY23, Combined Mining Services (CMS), which provides conveyor maintenance and reliability services.

We supported CMS through the start-up phase of their business and where required provided additional support to navigate our invoicing and payment process, including offering 14-day payment terms.

Recently, CMS has also received a grant from South32 to cover the expenses for three of their Aboriginal and Torres Strait Islander employees to undertake a Certificate IV qualification in Underground Mining. Upon successful completion of this course and attainment of a Deputy Certificate of competency[1], anticipated at the end of 2024, they will be the only Deputies at IMC of Aboriginal and Torres Strait Islander descent.

Aboriginal and Torres Strait Islander procurement and employment provide economic and social benefits, and help address historical disadvantage. For every A$1 of revenue, Aboriginal and Torres Strait Islander businesses generate A$4.41 of economic and social value[2].

In FY23, IMC procured A$2.9 million worth of goods and services from Aboriginal and Torres Strait Islander businesses, an increase of 78 per cent from FY22.

(1) A New South Wales state statutory qualification
(2) Supply Nation (2018): The Sleeping Giant Report

MANAGING OUR ENVIRONMENTAL IMPACT

We are committed to protecting natural resources including water, biodiversity, air and surrounding ecosystems. We work hard to be responsible stewards of the environment and aim to safely manage tailings, reduce waste, rehabilitate land disturbed by our activities and leave a positive legacy in host communities.

IN THIS SECTION
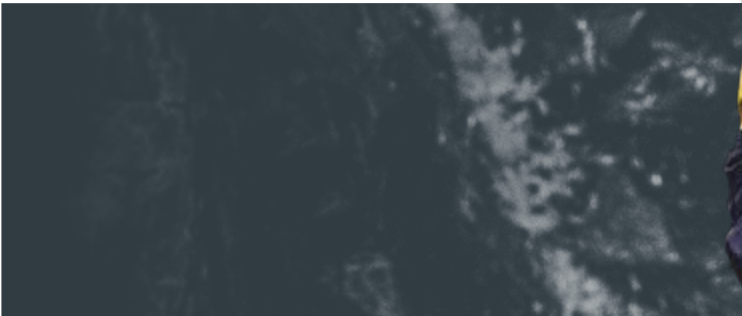
WATER

Water is a valuable resource that we share and is critical to the sustainability of communities, the environment and our business. In many of the areas where we operate, water is scarce, and we manage risks associated with water security and access for our operations and communities. We are taking near and long-term action to minimise and, where possible, avoid any negative impacts on water availability and quality for the future of our business, local communities, and the environment.

FY23 at a glance

› Met the contextual water target at Hillside Aluminium

› Exceeded our water efficiency stretch target to achieve an efficiency improvement of more than two per cent

› Embedded our 'value of water' project to improve our long-term water planning

FY24 focus areas

› Working towards achieving our contextual water targets at three operations

› Continuing activities to meet our FY27 water efficiency target for operations in baseline water stress

› Strengthening our water-related risk governance systems

Performance snapshot

>2%
improvement in water efficiency at operations in areas of baseline water stress, exceeding the stretch trajectory set in FY21 to meet our FY27 target.

20%
reduction in water withdrawal from available sources at operations in areas of baseline water stress.

61.5%
of operational water withdrawn from available sources has been recycled or reused.

ICMM Principle

02 Decision-Making	03 Human Rights	04 Risk Management

06 Environmental Performance

South32 supports the UN SDGs

6 CLEAN WATER AND SANITATION	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
6.4	12.2

UNGC Principle

ENVIRONMENT   HUMAN RIGHTS

Our approach

Water stewardship

We recognise that water is a vital shared resource with high social, cultural, spiritual, environmental, and economic value. Access to safe drinking water is an internationally recognised human right,[1] essential to the wellbeing and livelihoods of communities. Access to water is integral to the healthy functioning of natural ecosystems and the cultural and spiritual practices of many communities.

Water resources are under increasing pressure from industrialisation, urbanisation, climate change and the needs of growing populations. We have a role to play in, where possible, avoiding and minimising adverse impacts on water availability and quality. Water is a critical input for our operations where it is primarily used for processing, suppressing dust and managing tailings, as well as for sanitation and catering for our people. In many of the areas where we operate, water is scarce, and in other regions, in excess. We are water consumers, but also water stewards, and recognise the need for a collective response to sustainably manage the water resources we all rely on.

Our Approach to Water Stewardship aims to work towards sustainably managing water resources within our operations and contributing to addressing the shared water challenges in the catchments where we operate.

Our Approach to Water Stewardship is guided by ICMM Mining Principles: 2 – Decision Making, 3 – Human Rights, 4 – Risk Management and 6 – Environmental Performance, and the associated ICMM Position Statement on Water Stewardship. We support the United Nations Sustainable Development Goals 6.4 and 12.2, and the United Nations Global Compact Environment and Human Rights Principles. Our commitment to water stewardship is supported by our Board-approved Sustainability Policy and Our Approach to Human Rights, and managed through our internal environment and climate change, social performance, reporting and closure standards, which are supplemented by operational procedures that account for local and regional water needs and regulatory requirements.

As part of our Approach to Water Stewardship, we are committed to:

– Water stewardship[2]: aiming for water use that is socially and culturally equitable, environmentally sustainable and economically beneficial, which is achieved through a stakeholder-inclusive process;

– Minimising our adverse impacts: we apply the mitigation hierarchy to, where possible, avoid and minimise adverse impacts on the natural environment associated with our water withdrawals and discharges;

– Working with our communities: supporting local communities and working with them on community water issues they may face, now and in the future;

– Considering the value of water: continuously improving the integration of water considerations into our planning and operational processes to holistically consider and value water in all stages of the mining lifecycle;

– Governance and management: analysing the effectiveness of our governance and management processes to continuously improve our water-related performance and contributing towards global governance initiatives; and

– Transparent disclosures: publicly reporting our water performance and progress on our water stewardship activities.

+ **Learn more about Our Approach to Water Stewardship at _www.south32.net_.**

Our performance and progress in FY23

We track and report our water performance in accordance with the Minerals Council of Australia (MCA) Water Accounting Framework (WAF), which is shown in full in the 2023 Sustainability Databook. We continue to enhance our water reporting by implementing the updates to the ICMM Guidance for Consistent Water Reporting and MCA Water Accounting Framework (V2.0) into our reporting processes.

Most of the water we use for our operations - over 96 per cent of our total water withdrawal for FY23 - was sourced from groundwater or surface water. We also source comparatively small volumes, approximately three per cent of total water withdrawal for FY23, from third parties to support our process and potable water needs. Groundwater comes from local bores and mine dewatering, while surface water is obtained from either direct rainfall capture, or river or dam abstraction, and pumped to site. The volume of water consumed across our operations increased by approximately 72 per cent during the reporting period, totalling 76,260 megalitres compared to 44,259 megalitres in FY22. This increase is a direct result of improved water accounting, capturing water consumed in waste or in our product , in line with the implementation of MCA 2.0 and ICMM Guidance[4]. The majority of the water was consumed either by being entrained in waste (approximately 49 per cent) or through evaporation (approximately 32 per cent). The remaining excess operational water is either retained in product, discharged to surface water, groundwater or sea water, or piped to third parties in line with regulatory requirements.

All operations and major projects undertake water monitoring programs within their area of influence[3]. These programs are designed to inform us of changes in ground and surface water quality and flow rates. Local regulatory authorities set compliance requirements through our permits and licences, which are managed through monitoring programs, impact and risk assessments.

Where possible, we reuse or recycle water to limit our reliance on shared water sources in the catchments where we operate. In FY23, we reused or recycled 106,910 megalitres of water, compared to our total water withdrawal of 66,981 megalitres, resulting in a water efficiency of 61.5 per cent. Our overall efficiency did not improve, with a decrease of approximately 4.4 per cent compared to the previous year. Some challenges we faced were experienced at operations where we received above-average rainfall. This occurred at Illawarra Metallurgical Coal (IMC) limiting our ability to recycle and reuse water due to excess supply in the catchment.

This year we further incorporated updates to our water accounting methodology in line with both MCA WAF (2.0) and the ICMM Guidance[4]. Specifically, we updated our other managed water accounting where water is actively managed (through being physically pumped, treated or where there is material evaporative losses) and flows from the source to a destination without being used in the operation. This has provided us a more detailed view on the level of effort required by our operations to remove excess water.

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(1) As recognised by the United Nations General Assembly in Resolution 64/292.
(2) Adapted from the Alliance for Water Stewardship's definition of 'water stewardship'.
(3) Area of influence defined as the boundary that takes into account South32's business activities, and their potential direct, indirect and/or cumulative impacts on the environment
(4) MCA WAF (2.0): Minerals Council of Australia Water Accounting Framework User Guide Version 2.0 and ICMM Water Reporting Good practice guide, 2nd Edition August 2021.

Consumption data for FY21 and FY22 has been restated as a result of improved accounting practices at Mozal Aluminium. Reuse and recycle volumes related to the Casthouse operation have demonstrated a higher level of efficiency in water use.

We understand that water is a critical resource and recognise our obligation to pay for all water used by our operations in the same manner that all water users do. IMC purchased licenses to account for its take of the volume of water (groundwater and surface water) entering the Dendrobium mine. IMC's expenditure to secure these licences between 2015 and 2019 was A$5.6 million. Following an investigation by the New South Wales Natural Resources Access Regulator (NRAR), in June 2023 IMC entered into an enforceable undertaking with NRAR for an alleged breach of the *Water Management Act 2000* associated with incidental surface water taken as a result of carrying out operations at the Dendrobium mine. IMC has agreed to implement various environmental protection works and activities at the mine, worth approximately A$2.9 million, in order to regularise its surface water take. These activities will involve providing funding for a water-related community project which is being developed collaboratively with NRAR and other stakeholders. In March 2023, a new surface water licensing regime came into effect which allows water allocations to certain coal mines, including the Dendrobium mine. IMC applied for water licences under this regime in March 2023.

Progressing our contextual water targets

As per Our Approach to Water Stewardship, we set contextual water targets (CWT) for operations with water-related material risk, including Hillside Aluminium, Worsley Alumina, Hotazel Manganese Mines (HMM), Mozal Aluminium and IMC. Mozal Aluminium achieved, and closed out, its CWT in FY22. This year we are in the process of completing a water risk and opportunity screening process at all of our operations, an exercise which is completed every five years. The outcomes of the risk and opportunity screening process will be used to update the operational and project risk profiles and identify opportunities to collaborate and promote improved water stewardship outcomes within the local catchment.

We have contextual water targets for each of these operations:

Operation	Water-related material risks	Contextual water target	Year set	FY23 progress
Hillside Aluminium	Variability of rainfall in the region means there is a risk of disruption to water supply to our smelter.	Improve catchment water balance knowledge by December 2022 to aid water-related collective action.	2019 (set) 2021 (revised)	This contextual water target has been met. We collaborated with the uMhlathuze Water Stewardship Partnership (UWASP) and the South African National Business Initiative (NBI) to improve catchment water balance knowledge to inform water-related collective action. Interactive tools were released in FY23 that track real-time river flow data in the uMhlathuze River Catchment, help authorities make informed decisions on water management and support collaboration with stakeholders.
Worsley Alumina	Insufficient water in the refinery catchment lake could result in water supply disruptions to the refinery. Oversupply of water in the refinery catchment lake resulting in overtopping of storage facilities leading to contamination of the site's fresh-water lake.	Work towards delivering a 10 per cent improvement in water use efficiency at the refinery by reducing water volume consumed and/or reused by FY28, compared to FY21 baseline.	2019 (set)	This contextual water target remains on track. To reduce water demand and consumption, a dilution reduction project commenced to increase pump flow capacity across new filters. Studies for a mud washing project are ongoing with the potential to deliver water, energy and operational benefits.
Hotazel Manganese Mines	Growing water scarcity, increasing competition for water resources and ageing distribution infrastructure in the region means there is a water supply risk to Wessels mine, Mamatwan mine, and the town of Hotazel.	Identify a sustainable community project that will give access to clean water and support the local municipalities water access plans, with an expectation to have this project implemented by the end of FY26.	2022 (set)	This contextual water target remains on track. This year we have engaged with communities and other partners and identified a sustainable community project to give access to clean water and support the local municipalities' water access plans.
Illawarra Metallurgical Coal	Operating in a sensitive water catchment where there is potential to cause damage as a result of subsidence from our underground mining operations and potentially impact our ability to secure new regulatory approvals. Inrush or inundation risk associated with our underground mining operations.	Support development of a framework for incorporating Traditional Custodian values into land and water stewardship in the Illawarra region by December 2024.	2022 (set)	This contextual water target remains on track. This year we have engaged with the Traditional Custodians to build knowledge and capacity within the Illawarra Local Aboriginal Land Council to commence on ground activities in FY24.

Our water efficiency targets

Each year we reassess which of our operations are exposed to baseline water stress, using the World Resources Institute's Aqueduct tool, supplemented by an assessment of local context and catchment conditions. Currently, we have four operations and one development option in areas defined as having baseline water stress: Mozal Aluminium, Worsley Alumina, IMC, HMM and the Hermosa project. For these operations (not considering the Hermosa project) a target was set in FY22 to achieve at least a 10 per cent improvement in water use efficiency by FY27, compared to a baseline of FY21, with a stretch target of more than 15 per cent improvement.

During FY23, we planned and implemented activities to meet our FY27 water use efficiency target and integrated prioritised initiatives into our business planning process. Examples include installation of water recirculation infrastructure at our Wessels mine at HMM to reclaim additional water previously distributed for evaporation and improving metering at Mozal Aluminium to better inform water efficiency gains. To incentivise achieving our water-related targets, we linked them to our remuneration through inclusion in our business scorecard, a key determinant of the short-term incentive payments we make to all eligible employees. In FY23, the Water Efficiency Target (WET) was to achieve an efficiency improvement of >1 per cent compared to the baseline trajectory set in FY21, or >2 per cent to meet the stretch trajectory. While we exceeded our FY23 stretch target, the pipeline of projects that aim to assist in achieving the FY27 water efficiency trajectory required further consideration.

> **+**   **Read more in the Remuneration Report of our 2023 Annual Report available at _www.south32.net_.**

Improving water management

This year we embedded our 'value of water' project, established in FY22, to improve our long-term water planning. This provides planners with a more holistic and risk-based view of water-related planning to improve decision making and investment planning. To further strengthen our business planning processes, we enhanced our water supply and demand forecasts considering the risks and opportunities that relate to the future water profile at each of our operations and projects.

In FY23, we examined ways to optimise the Hermosa project's design to minimise any potential impact on the environment and apply innovative options, where possible. Installation of infrastructure to support dewatering began, and the second water treatment plant was commissioned. We also completed water studies during the feasibility stage of the project to inform planning and risk management.

At IMC we improved in-stream ecological releases to the receiving environment. Sustainable water releases to Brennan's Creek from the Appin mine catchment have been achieved through the commissioning of a water treatment plant in January 2023. The releases enhance downstream environmental values by improving ecological water quality requirements.

We continue to actively participate in relevant regional and global water stewardship groups and forums, as well as industry associations such as the ICMM, to collaborate, gain and share knowledge. This year we collaborated with industry peers in Western Australia to identify future solutions for long-term implementation of activities linked to sourcing climate independent water supplies, such as treated or recycled water, for our relevant operations.

Tracing the Fault

The Elouera Geological Fault lies between one of the underground longwalls at our Dendrobium mine at IMC and the former Elouera mine. The fault is located close to Lake Avon, which supplies drinking water to Sydney and the Macarthur and Illawarra regions of New South Wales, Australia.

Geological faults are displacements within rock that can form barriers to groundwater flow, preferential flow paths (conduits), or they can be both conduits and barriers. Given the proximity of the fault to the lake, historical and future mining, we undertook investigations to improve our understanding of the fault and potential risks to the drinking water supply from Lake Avon.

Various methods were employed (such as packer testing, downhole geophysics, pumping tests and sampling at discrete depths) with four bores intersecting the fault for an extensive analytical suite that included major ions, metals, gases and isotopes. Groundwater tracer testing, a measurement technique not widely used in Australia, was also undertaken.

Based on the tracer testing, and supported by other investigative work, it was deemed unlikely that the fault would be a conduit to flow or adversely impact the Avon Lake drinking water reservoir. Subsequent monitoring confirmed this conclusion to be correct, there was no anomalous inflow associated with our nearby longwall mining and no anomalous drawdown shown in the piezometers installed within and across the fault during the mining.

The tracer test results improved the understanding of the hydrogeological behaviour of the fault, particularly the groundwater connectivity along the fault. This led to improved confidence in understanding the potential impacts of a loss of drinking water supply from Lake Avon associated with the nearby longwall mining.

The work to investigate the behaviour of the Elouera Geological Fault was acknowledged as runner-up for the Environmental Excellence Award Category at the 2023 New South Wales Mining HSEC Awards.
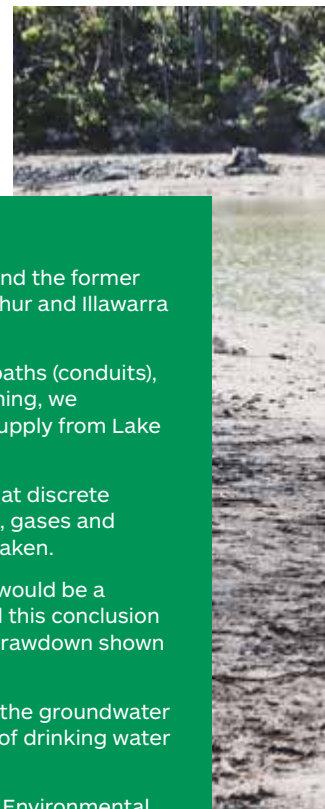
We continue to engage with our communities and other stakeholders. At HMM in South Africa, we engaged communities in the John Taolo Gaetsewe District municipality near our operation to share insights on current water-related activities, needs and opportunities relating to water access.

Our internal Group Water Stewardship Working Group, comprised of representatives from our Environment, Group Planning, Sustainability Strategy, Group Risk and Assurance and Investor Relations teams that have a shared interest with respect to water stewardship and governance, continue to enhance water governance.

While we work on initiatives to improve water management, we have experienced some challenges during the year. These include lengthy delays and technical challenges with retrofitting ageing infrastructure at the Mamatwan mine at HMM in South Africa. The Mamatwan mine is currently designing upgrades to the stormwater management infrastructure to improve water management on site. The design of a stormwater dam has proven challenging due to constraints in identifying a location within the mine catchment which is suitable for future mine plans and the topography. Through these challenges we have learnt that modifications to improve water efficiency in older operations takes time, can be complex, and needs to be considered in ongoing business planning processes.

Looking ahead

In FY24 and beyond, we will progress work associated with our water-related targets and standards, further strengthen our risk management and pursue further efficiencies, with a focus on:

– Working towards achieving our contextual water targets at HMM and Worsley Alumina and working with Traditional Custodians at IMC;

– Continuing activities to meet our FY27 water efficiency target for operations in baseline water stress;

– Further refining our water accounting processes to align with the second edition of the ICMM Good Practice Guide for Water Reporting and MCA Water Accounting Framework (V2.0);

– Supporting our water-related actions associated with implementation of the Global Industry Standard on Tailings Management;

– Addressing excess water inflows at Groote Eylandt Mining Company by applying a catchment based approach for excess water management and final landform design planning that minimise adverse environmental impacts;

– Strengthening our water-related risk governance systems in line with our internal environment and climate change standard; and

– Improving water-related data analytics to inform water-related decisions.

BIODIVERSITY

We recognise the importance of protecting biodiversity and ecosystem services and aim to achieve no net loss for all new projects and major expansions. It is our responsibility to minimise the impacts to the environment and to rehabilitate land disturbed by our activities.

FY23 at a glance

› Expanded implementation of the biodiversity mitigation hierarchy

› Achieved the highest outputs of annual rehabilitation across our operations

› Participated in a pilot study on implementing the Taskforce on Nature-related Financial Disclosures (TNFD) Framework in the Australian context

FY24 focus areas

› Reviewing and updating our Threatened Species management approach at Illawarra Metallurgical Coal and GEMCO

› Developing and implementing a strategic South32 Biodiversity and Conservation Roadmap, including publishing Our Approach to Biodiversity and Conservation

› Continuing to work with industry peers and other stakeholders to prepare for the introduction of TNFD

Performance snapshot

2%
of our land holdings have been disturbed for operational reasons.

333
hectares rehabilitated in FY23.

100%
of required operations have a biodiversity management plan in place[1].

ICMM Principle

02 Decision-Making	04 Risk Management	06 Environmental Performance

07 Conservation of Biodiversity

South32 supports the UN SDGs

12 RESPONSIBLE CONSUMPTION AND PRODUCTION	15 LIFE ON LAND	17 PARTNERSHIPS FOR THE GOALS
12.2	15.5	17.16

UNGC Principle

ENVIRONMENT

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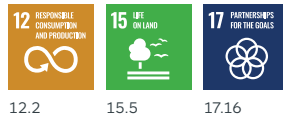
(1) All required operations have a biodiversity management plan in place. All of our 'operated operations' require biodiversity management plans, excluding Mozal Aluminium.

Our approach

We recognise the critical role that biodiversity plays in maintaining the quality, resilience and quantity of ecosystem assets and the provision of ecosystem services on which business and society rely. We acknowledge the continued decline and deterioration of global biodiversity and the subsequent need to halt and reverse biodiversity loss, including increased species and ecological community conservation[2]. As stewards of the lands and waters upon which South32 operate, we understand the importance of protecting the biological diversity and ecosystem services of these areas and contributing to the conservation of biodiversity through all stages of the mining lifecycle.

We seek to promote regional scale outcomes that are effective and enduring with a focus on our area of influence[3] and the broader bioregions in which we operate.

Our commitment to biodiversity is supported by our Sustainability Policy and managed through our Chief Technical Officer-approved internal environment and climate change standard. Our internal standard is supplemented by operational procedures that account for local and regional biodiversity and conservation needs and regulatory requirements. Our approach is guided by the ICMM Mining Principles: 2 – Decision Making, 4 – Risk Management, 6 – Environmental Performance and 7 – Conservation of Biodiversity, and the associated Position Statement on Mining and Protected Areas. We support the United Nations Sustainable Development Goals 12, 15 and 17, including targets 12.2, 15.5 and 17.16, as well as the United Nations Global Compact Environment Principles.

Our Board has ultimate responsibility for our company's governance and strategic direction. Our Sustainability Committee assists the Board in its oversight of our sustainability management, performance, assurance and reporting practices. This includes endorsing our public biodiversity commitments and monitoring the adequacy and effectiveness of our management approach. Management accountability for execution of the standards lies with the operations, while the Technical function is accountable for providing stewardship oversight. Management accountability is assigned to our Chief Operating Officers (implementation at the operations), Chief Technical Officer (standards and stewardship) and Chief Legal and External Affairs Officer (strategy and disclosure).

As part of our approach to biodiversity conservation, we:

– Avoid exploring or mining in World Heritage Areas and respect legally designated protected areas[4];

– Aim to achieve no net loss outcomes for all new projects and major expansions to existing projects[5];

– Take action to address the decline in biodiversity, with a focus on minimising our operational impacts through application of the biodiversity mitigation hierarchy[4], and collaborate with others to contribute towards nature positive outcomes within the broader bioregions in which we operate; and

– Respond to changing disclosure requirements which we expect to evolve as frameworks such as the Taskforce on Nature-related Financial Disclosures mature.

Our performance and progress in FY23

We track our biodiversity performance against a range of key metrics, shown in full in the 2023 Sustainability Databook.

Updating our risk and opportunity assessment

Mining, mineral processing and refining may impact biodiversity through activities such as land clearing, water use and discharge, waste generation, and other operational activities associated with mining operations. If not adequately managed, this may result in potential adverse impacts for fauna and flora such as the introduction of invasive species, soil erosion, sedimentation of waterways, ecosystem conversion and habitat fragmentation.

Biodiversity-related issues can pose a material risk to business, including impacts to the valuation of reserves, increased operational costs and challenges in obtaining future approvals. Failure to adequately manage biodiversity risks carries financial, operational, regulatory, and reputational implications for South32.

We require all operations to undertake a risk and opportunity screening exercise at least every five years, including not only direct operational aspects but also the pressures on the surrounding bioregions, which could be influenced by factors such as the physical impacts of climate change and changes in land use. The process enables us to identify opportunities to promote improved biodiversity and conservation outcomes within the bioregions in which we operate, such as investing in regional conservation initiatives and collaborating with other stakeholders on biodiversity research.

In FY23, we updated our biodiversity risk and opportunity screening assessment at Groote Eylandt Mining Company (GEMCO), Illawarra Metallurgical Coal (IMC), Worsley Alumina and the Hermosa project, considering both direct operational aspects as well as pressures on the surrounding bioregions in which we operate. Our remaining operations are scheduled to complete a biodiversity risk and opportunity screening assessment in FY24.

We plan to use the outcomes of the risk and opportunity screening process to update our operational and project risk profiles and identify opportunities to collaborate on and promote improved land and biodiversity outcomes within the bioregions. The outcomes will also allow us to identify, prioritise and provision for strategic land acquisitions, mitigation measures, conservation initiatives (including biodiversity research) and progressive rehabilitation activities required to minimise operational risks.

We are working on updating controls to manage biodiversity risks. We require our operations to apply the mitigation hierarchy to minimise the impact of our operations through avoidance, minimisation, rehabilitation, and offsets, where appropriate. All required operations have a biodiversity management plan in place.

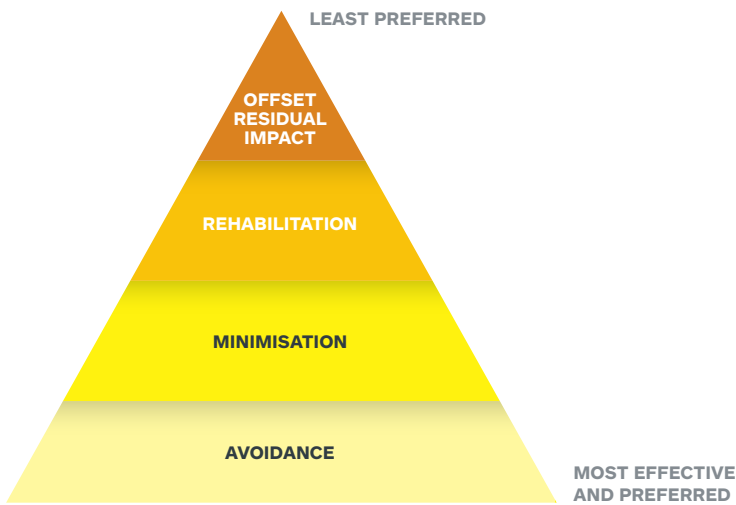(2) Kuming-Montreal Global Biodiversity Framework (2022).
(3) Area of influence defined as the boundary that takes into account South32's business activities, and their potential direct, indirect and/or cumulative impacts on the environment.
(4) As per the ICMM Performance Expectation 7.1.
(5) As per the ICMM Performance Expectation 7.2.

Managing biodiversity and conservation

In FY23, we focused on expanding implementation of the mitigation hierarchy which is intended to achieve our ambition of no net loss for all new projects and major expansions of existing projects.

LEAST PREFERRED

OFFSET RESIDUAL IMPACT

REHABILITATION

MINIMISATION

AVOIDANCE

MOST EFFECTIVE AND PREFERRED

Avoidance

The mitigation hierarchy starts with avoiding adverse impacts on biodiversity before actions and decisions are taken. As per the ICMM Performance Expectation 7.1, we are committed to avoiding exploring or mining in World Heritage Areas and to respecting legally designated protected areas.

For the proposed Worsley Alumina Mine Development, we continue to develop and refine practical and sustainable biodiversity and environmental avoidance measures. These include measures focused on the conservation of threatened species to avoid sensitive habitats, strengthening the establishment of ecological linkages to support fauna movement, and applying feral predator controls. We continue to engage with State and Commonwealth regulatory agencies, local communities, and other interested parties as the approvals process for the Worsley Mine Development progresses. We have adjusted our mine plan to reduce our interaction with ecologically sensitive areas.

This year we developed an enhanced process of threatened species and ecological values management and conservation initiatives at GEMCO. This provides a framework to avoid and mitigate adverse biodiversity impacts and appropriately manage significant biodiversity associated with the proposed project area. Threatened species associated with the operation include the Northern Hopping Mouse, Brush-tail Rabbit-Rat, Northern Quoll, Northern Masked Owl, Northern Brush-tail Possum and Ghost Bat. In developing this approach, South32 worked collaboratively with site personnel, species experts and engaged nationally recognised independent conservation expertise to provide input. This enhanced process identifies additional mitigation measures and conservation initiatives that, when coupled with existing operation biodiversity management plans and biodiversity regulatory requirements, aims to provide positive biodiversity outcomes.

At Hermosa, we are evaluating options for infrastructure development to assist us with our aim of avoiding adverse biodiversity impacts.

Minimisation

Minimisation aims to reduce the duration, intensity and extent of adverse impacts that cannot be realistically avoided. This typically involves threat abatement projects such as weed management, invasive species control and biosecurity measures.

This year we progressed our weed management program at GEMCO, as we support and initiate activities under the Groote Archipelago Threatened Species Management Plan. We continue to prevent the introduction of invasive plant and animal species to our operations at GEMCO, Worsley Alumina, IMC, and Cannington. At GEMCO, we also continue to implement an award-winning[6] biosecurity program across Groote Eylandt, with a focus on keeping the island free of invasive species such as cane toads.

Both the proposed Worsley Alumina Mine Development and the GEMCO Eastern Leases Threatened Species Mitigation Strategy include minimisation actions, for example, landscape-scale ecological linkages to maintain and enhance landscape-scale habitat connectivity, threatened species pre-clearance methodologies, and the re-design of a water dam in the Eastern Leases to expand buffers to threatened species habitat.

Other activities undertaken in FY23 to address biodiversity-threatening processes include forest hygiene practices to manage the risk of forest disease spread, protection of topsoil health through storage, handling and transport procedures, such as biosecurity inspections in relevant jurisdictions and a partnership to support feral cat research.

Rehabilitation

Rehabilitation consists of measures to repair degradation or damage to specific biodiversity features and ecosystems. Progressive rehabilitation refers to rehabilitating areas as they become available and are no longer needed for operational requirements.

Around the world we have land holdings of 602,057 hectares, with approximately 95 per cent of these located in Australia. Cumulatively, we have disturbed less than three per cent (approximately 18,017 hectares) of our landholdings for operational reasons, of which 33 per cent (approximately 5,911 hectares) has been rehabilitated. In FY23, South32 newly disturbed 372 hectares of land. During the same period, we achieved the highest outputs of annual rehabilitation (333 hectares) across our operations, most notably at GEMCO and Worsley Alumina.

At Cerro Matoso and IMC we have set aside over 1,947 hectares of land for conservation. In FY23, we increased the amount of land protected for conservation, through an additional 1,323 hectares of land, associated with lease holdings at Worsley Alumina. Conservation is focused on matters that exist under the Worsley Protected Areas Procedure with associated spatially defined protected areas. The conservation areas include riverine and riparian habitat to improve ecological linkage and habitat continuity across the landscape, and high conservation value areas.

(6) Our GEMCO team, in partnership with the Anindilyakwa Land Council (ALC), won the 2021 Australian Biosecurity Award in the category Best Environmental Biosecurity program.

We undertake progressive rehabilitation, which commences as soon as possible after the completion of mining activities, and generally includes:

- Backfilling, landscaping and recontouring of mined areas to allow for adequate drainage of surface water;
- Re-spreading of overburden materials and topsoil, often directly returned from nearby new mining areas, minimising the need to stockpile these materials; and
- Preparing the topsoil and revegetating with local provenance species.

In FY23, we continued to embed the biodiversity and rehabilitation requirements of our internal environment and climate change standard by further integrating land and progressive rehabilitation into our business planning processes and conducting research to improve performance and outcomes. Our stewardship program, which is designed to provide second-line assurance over conformance with our internal environment and climate change standard, focused on GEMCO, HMM and the Hermosa project.

Our monitoring programs allow operations to measure rehabilitation success using specific 'end-state' criteria. They also identify ways to improve our performance and achieve greater ecological value, primarily through partnering with research institutions. We endeavour to engage local communities including Indigenous, Traditional and Tribal Peoples to inform our rehabilitation activities, particularly on aspects such as the provenance of local plant species and seeds, harvesting and storage of seeds and methods to facilitate successful rehabilitation.

This year we undertook progressive rehabilitation activities at multiple operations. At Worsley Alumina, this included:

- Continuing our research initiatives to increase species richness in rehabilitated and restored areas, particularly for significant species such as Gastrolobium sp. Prostrate Boddington;
- Completing a five-year project using innovative approaches and remote sensing technology to monitor an agricultural restoration trial. This project aims to support the progress of future ecological restoration initiatives near the operation;
- Participating in research with Curtin University, where a PhD study investigating Environmental DNA for the assessment of terrestrial fauna in rehabilitated areas has commenced; and
- Undergoing a trial to create and monitor artificial hollows in our maturing rehabilitated areas to create a habitat for certain hollow-dependent fauna. Hollows are often limited in recently rehabilitated areas, and the development of artificial hollows can be an innovative way to create a habitat and promote biodiversity outcomes.

At GEMCO, progressive rehabilitation activities included the completion of revised completion criteria for rehabilitation following engagement with the ALC, scheduled update of the closure plan, and the commissioning of a mulcher in our rehabilitation areas as part of a trial to assist with topsoil availability. We introduced drones for aerial spraying and seeding, improving the efficiency of both activities, and reducing the safety risk associated with aerial spraying. We also planted over 10,000 seedlings across 86 hectares of rehabilitation sites.

Where rehabilitation is delayed due to operational requirements, full closure value is provisioned to enable rehabilitation at a future date as per our internal closure planning processes.

Offset residual impact

Where adverse impacts on biodiversity cannot be avoided, mitigated or rehabilitated, conservation actions may be applied to other areas to offset that residual impact.

The proposed Worsley Alumina Mine Development includes the implementation of biodiversity offsets, but only once all reasonable avoidance, mitigation and rehabilitation measures have been exhausted and where there remains a significant residual impact to significant flora and fauna. We have prepared a Biodiversity Offset Plan (BOP) for the Worsley Alumina Mine Development which is under consideration by relevant regulatory agencies. We have provided the following offset options which we will implement if the proposal is approved by those regulatory agencies:

- Conserving and securing Worsley Alumina land for habitat protection (land that has not previously been cleared);
- Upgrading protection of areas that Worsley Alumina has ecologically restored since they were mined;
- Undertaking targeted ecological restoration and management on Worsley Alumina land (land that has previously been cleared for non-mining purposes);
- Installing, maintaining, monitoring and managing artificial hollows in priority locations to support breeding of affected species;
- Establishing a dedicated conservation reserve, including a new fenced feral predator free conservation reserve; and
- Undertaking research projects and partnerships.

At Cerro Matoso, we have an ongoing ecological restoration program with local communities. The program, which has over 240 members, supports the restoration and conservation of native flora and fauna species in the Cordoba region of Colombia. As of December 2022, over 58,000 native plants have been planted on 291 hectares of land, previously degraded by agricultural activity, with plans in place to undertake similar restoration activity on an additional 973 hectares of degraded land. The program supports nursery activities to grow trees, with community members also helping with sowing activities. It has led to wider socio-economic benefits, with the establishment of local companies to provide Cerro Matoso with forestry services.

At IMC we continue to monitor offset stewardship sites and are working on installing nest boxes to provide supplementary habitat for species in rehabilitated areas, as well as the installation of bee hotels. These hotels have been installed in the Hairy Geebung (*Persoonia hirsute*) offset area and provide habitat for native solitary bees that commonly pollinate the Hairy Geebung.

Partnerships

Collaboration and partnerships are a key part of our approach to biodiversity. In FY23, we continued to mature existing partnerships and establish new ones designed to promote improved and sustainable conservation outcomes in the regions where we operate, including:

– Supporting research initiatives through the South West Sustainability Partnership, an alliance to promote and support research in sustainability in Australia. This included research on biodiversity threat abatement and exploring potential opportunities for an Indigenous ranger program to combine traditional knowledge with conservation training to protect and manage biodiversity;

– Supporting the extension of the Western Shield program, described as one of largest wildlife conservation programs in Australia, and research initiatives to enhance biodiversity in the Jarrah Forrest and south west bioregion;

– Continuing our work with Hotham-Williams Warlang Boodja (Hotham-Williams Healthy Country), a five-year strategic environmental partnership with Peel-Harvey Catchment Council signed in FY21 to protect, preserve and rejuvenate the local environment in Western Australia's Peel and Wheatbelt regions;

– Continuing a partnership with Southern Gulf Natural Resource Management, which focuses on invasive weed control measures in the McKinlay and Cloncurry shires of north-west Queensland;

– Establishing an ongoing ecological restoration partnership with local communities near Cerro Matoso;

– Launching a new three-year partnership at IMC with Symbio Wildlife Park to help support koala conservation in the Illawarra and Macarthur regions of New South Wales; and

– Establishing a partnership with the Australian Wildlife Conservancy to support the translocation and expansion of new species, including ten threatened species, to the Mount Gibson sanctuary north west of Perth.

Taskforce on Nature-related Financial Disclosure

We participate in working groups and other forums, including the Taskforce on Nature-related Financial Disclosures (TNFD) Forum, to help develop and implement global standards and initiatives to meet emerging expectations in relation to biodiversity disclosure.

South32, alongside organisations in the critical minerals for clean energy technologies sector, participated in a pilot study and provided feedback on the learnings and existing barriers to adopting and implementing the TNFD Framework in the Australian context. We acknowledge the Department of Climate Change, Energy, the Environment and Water for sponsoring the pilot study, which was facilitated by EY. In consultation with the ICMM, we also piloted the application of the TNFD's Locate, Evaluate, Assess, Prepare (LEAP) process to assess nature-related risks and opportunities at one operation. Both TNFD pilot studies were completed in 2023 in preparation for the release of the TNFD Framework.

We are also working with business partners to explore biodiversity screening approaches to support the analysis of emerging disclosure frameworks. We continue to collaborate with industry peers, external stakeholders and governments to develop and test tools associated with emerging disclosure frameworks such as TNFD.

Supporting Koala Conservation

IMC and Symbio Wildlife Park launched a new three-year partnership in FY23 to help support koala conservation in the Illawarra and Macarthur regions of New South Wales.

The Illawarra and Macarthur regions have some of the most genetically pure koalas in Australia and this new partnership directly enables important conservation measures to be fast-tracked.

As well as delivering practical measures to support local koala conservation, the partnership will provide educational opportunities and inspiration for local school students, helping to create greater awareness of the need to protect koalas and other endangered species.

IMC is providing A$470,000 to support the partnership, which will go towards a number of initiatives, including a new research program using state-of-the-art drone-mounted thermal imaging cameras to gain a greater understanding of local populations and their movements.

Other initiatives include the roll-out of a first-of-its-kind augmented reality wildlife educational app for schools to help students learn more about koalas and other Australian wildlife, and a new citizen scientist education program.

Symbio Wildlife Park is a family owned and operated zoo located on the southern outskirts of Sydney on the top of the Illawarra escarpment. Symbio started in 1975 as a small wildlife park and has now grown to become a multi-award winning and internationally publicised zoo, whose mission is to educate, inspire and conserve.

Responding to change

The increasing rate of change in the conservation status of listed threatened species remains a challenge for biodiversity and conservation management. Evolving societal expectations, regulatory reforms and investor expectations combined with the emergence of various sustainability frameworks have added to the complexity of managing biodiversity outcomes.

Our approach to biodiversity is likely to be influenced by significant regulatory reform initiatives in the near future across the jurisdictions in which we operate. We will seek to adapt to the shifting landscape and integrate best practices into our planning, management and compliance activities to support future biodiversity, climate change and net zero goals. Ongoing engagement with subject matter experts, local communities and other external stakeholders aims to support the development of nature and community-based solutions, positive long-term relationships in our communities and positive environmental outcomes.

Looking ahead

In FY24 and beyond, we plan to build on our work to protect biodiversity and ecosystem services, with a focus on:

– Forecasting our nature-related dependencies and impacts using life cycle assessment methodology and exploring opportunities to contribute towards a nature positive future;

– Continuing to work with industry peers and external stakeholders to prepare for the introduction of TNFD with the ultimate aim of contributing to the sectors biodiversity outcomes;

– Reviewing and updating our Threatened Species management approach at IMC and GEMCO;

– Prioritising and planning next steps in response to the risks and opportunities identified in the biodiversity risk and opportunity screening process for all of our operations;

– Continuing to embed the mitigation hierarchy for biodiversity in our business activities; and

– Developing and implementing a strategic South32 Biodiversity and Conservation Roadmap, including publishing Our Approach to Biodiversity and Conservation.

Creating Habitat

Colombia has the greatest diversity of bird species in the world and is a habitat for 20 per cent of all birds globally. The forests surrounding Cerro Matoso are home to at least 280 different bird species, with some classified as threatened.

To help protect and maintain these populations, our team at Cerro Matoso plants thousands of native trees every year which has contributed to the establishment and maintenance of over 2,000 hectares of conserved and rehabilitated land around the operation.

This work brings together more than 200 people from ethnic and non-ethnic communities neighbouring the operation, who participate in various ways from creating native species nurseries to planting trees and maintaining planted areas. In 40 years of operation, Cerro Matoso has planted more than 486,500 trees. This area is a home not only for birds, but also for 528 flora species and 677 animal species.

To contribute to efforts around the protection of biodiversity, Cerro Matoso has partnered with recognised organisations such as The Nature Conservancy and has been participating in national alliances focused on natural corridors. These alliances include initiatives around environmental education to empower local communities to care for the environment, helping to build knowledge and capabilities to contribute to the sustainability of the programs.

TAILINGS

The safe management of tailings storage facilities (TSFs) is essential to protect the environment and surrounding communities. We are committed to implementing the Global Industry Standard on Tailings Management (GISTM) at all South32 operated TSFs.

FY23 at a glance

› Updated Our Approach to Tailings Management in alignment with the GISTM requirements

› Published our first GISTM public disclosure for our 'very high' consequence facilities, which are only at Worsley Alumina

› Strengthened dam monitoring and governance using the Decipher platform

FY24 focus areas

› Continuing to implement the GISTM requirements for all of our operated TSFs

› Broadening remote monitoring on the Decipher platform

› Continuing work with the ICMM and industry partners on innovations to reduce and retreat tailings

Performance snapshot

6%
decrease in total tailings produced year-on-year.

13%
of tailings recycled/reused in FY23[1].

100%
conformance against ICMM Conformance Protocols for GISTM for South32's 'very high' consequence TSFs at Worsley Alumina.

ICMM Principle

02 Decision-Making	03 Human Rights	04 Risk Management
05 Health & Safety	06 Environmental Performance	07 Conservation of Biodiversity
08 Responsible Production	09 Social Performance	

South32 supports the UN SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
9.4

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
12.2

UNGC Principle

ENVIRONMENT   HUMAN RIGHTS

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(1)   In FY23, our calculation was revised to include tailings reused as well as tailings recycled. Numbers for prior financial years reflect tailings recycled only.

Our approach

Tailings are a by-product of the mining and refining process which remain after recoverable metals and minerals have been extracted from mined ore. Tailings are commonly in the form of a slurry (a mixture of solids and process water) and are discharged into a TSF.

We recognise the potential risks TSFs present to our people, our communities, the environment and stakeholders. Our Approach to Tailings Management reflects our commitment to safe and responsible management throughout the TSF lifecycle and applies to South32 operated TSFs.

Our Approach to Tailings Management is consistent with the ICMM Tailings Management: Good Practice Guide, which is informed by the requirements of the GISTM and the commitments in the ICMM's Tailings Governance Framework Position Statement. It is also consistent with the Australian National Committee on Large Dams (ANCOLD) guidelines, as well as the ICMM Mining Principles, particularly Mining Principles: 2 – Decision-making, 3 – Human Rights, 4 – Risk Management, 5 – Health and Safety, 6 – Environmental Performance, 7 – Conservation of Biodiversity, 8 – Responsible Production and 9 – Social Performance. These requirements are embedded in our internal dam management standard.

We are committed to:

– Managing TSFs with the aim of protecting our employees, surrounding communities, the environment and our physical assets, throughout the TSF lifecycle;

– Implementing the GISTM at all South32-operated TSFs. We also support and advocate implementation of the GISTM at all of our non-operated joint venture TSFs, within the limits of the joint venture arrangements;

– Monitoring and independent auditing of our TSFs so that controls for TSF risks can be comprehensively assessed and continually improved;

– Regularly updating and testing our tailings emergency preparedness and response plans;

– Pursuing opportunities that will improve reuse and recovery of our tailings waste streams thus reducing our environmental footprint and closure legacy;

– Financial provisioning for TSF closure; and

– Assessing the physical impacts of climate change at all of our operated assets to anticipate required changes in management of our current and future TSFs.

Our overarching approach to tailings management is to achieve stable and dense tailings. This involves understanding tailings behaviour, reducing water content at TSFs, and developing innovative construction techniques for these TSFs. We actively look at how we can apply innovative solutions to improve how we manage tailings.

The safe management of TSFs is an integral part of mining and processing activities. We conduct risk assessments at each of our operated TSFs and associated major projects for material risks. We manage risks associated with our TSFs in accordance with the consequence category defined by regulatory requirements, applicable guidelines and standards.

Employees who work with tailings at all of our operations are required to undergo internally developed training in tailings management specific to each operation. Our Tailings Governance Group conducts reviews of our TSFs as well as our major tailings projects on a regular basis.

Meeting the requirements of the GISTM is a key focus for South32 and we actively support improvements in tailings management through the ICMM Tailings Working Group, industry conferences and research projects. Our Sustainability Committee is provided with an annual update of our TSFs' conformance with the GISTM and relevant standards.

We work closely with our non-operated joint ventures to support the adoption of standards of conduct consistent with ours, as relevant and within the limits of the joint venture arrangements.

+   **Learn more about Our Approach to Tailings Management at _www.south32.net_.**

Our performance and progress in FY23

Tailings management

As of 30 June 2023, we operate 30 TSFs. Eighteen of these are active, 10 are inactive and two are closed.

Tailing waste (kilotonnes)	FY23	FY22	FY21
Total tailings produced	**18,884**	20,042	18,399
Total tailings waste	**16,347**	18,421	17,269
Total tailings recycled / reused	**2,537**	1,621	1,130
Percentage of tailings recycled / reused[1]	**13%**	8%	6%

(1)   In FY23, our calculation was revised to include tailings reused as well as tailings recycled. Numbers for prior financial years reflect tailings recycled only.

Our total tailings waste produced decreased by six per cent when compared to FY22. Increased efficiency of processing technologies over time allows some of our operations to recover or recycle economically viable historical tailings materials. Our total tailings recycled value has increased by five per cent in FY23, compared to the prior year, due to the inclusion of tailings reused in our revised calculations.

+   **Learn more about our tailings data, including details on our TSFs, in the 2023 Sustainability Databook, available at _www.south32.net_.**

TSFs are designed to achieve consolidation of the tailings material through the removal of water from the tailings surface and the use of thickeners prior to disposal. Minimising water stored on TSFs helps to produce dense tailings that reduce the risk of failure.

At Cannington, we have improved water management practices and reduced water stored on TSFs by constructing a new balancing pond for process water. This provides additional water capacity and the ability to remove water from the TSF. We have also improved pumping arrangements to augment existing decant infrastructure at Worsley Alumina. At Groote Eylandt Mining Company (GEMCO), we have constructed a new TSF (TSF15) and increased the density of TSF13 through more efficient drying and water return, as well as cycling tailings deposition between TSF13 and TSF15. To improve slime tailings density in TSF13, current studies are examining the use of an amphiroller to further assist in drying and increasing the density of the tailings.

Near real-time monitoring is in place at many of our operated TSFs. During FY23, we strengthened dam monitoring and governance using the Decipher platform, which provides insight into the status of TSFs, including pond size percentage from satellite imagery. The platform centralises data for near real-time monitoring and reporting from monitoring devices, drones, inspections, remote sensors and from an imaging radar technique called interferometric synthetic aperture radar. This year we automated selected monitoring devices, such as vibrating wire piezometers to send data directly to the Decipher platform across TSFs at six of our operations.

Recovering and repurposing tailings can extend the life of a TSF, positively impacting our business, the community and industry practices. At GEMCO we continued to recover tailings from historical TSFs for reprocessing into PC02 - a manganese fines product. At South Africa Manganese, tailings are recovered at the Wessels mine for repurposing, while at Illawarra Metallurgical Coal (IMC), coal rejects from the washing process are used for internal operational purposes and sold for use in local construction works.

At GEMCO, Worsley Alumina and Cannington, we commissioned concept studies to assess the repurposing of the deposited tailings within the existing TSFs. We are participating in studies for the Hermosa project to assess the retreatment of tailings during the lifecycle of the project as new technologies emerge. Closure plans have been updated and completed for GEMCO and Worsley Alumina, with TSF closure studies ongoing at Cannington and GEMCO. Activities, such as capping of TSF7 at GEMCO, to reduce eventual closure liabilities commenced in FY23, while at Cerro Matoso, we have undertaken geotechnical investigations and laboratory analysis to inform our final landform and TSF closure design to meet the requirements of safe closure under the GISTM.

In FY23, the industry continued to face challenges with limited availability of personnel with technical skills in tailings management. Recruiting and retaining personnel with tailings management skills and providing sufficient development pathways for them remains a challenge that we continue to manage.

Meeting the GISTM commitments

As an ICMM member company, we are committed to implementing the GISTM at all South32-operated TSFs. TSFs with an 'extreme' or 'very high' potential consequence classification were required to be in conformance with the GISTM by 5 August 2023, while TSFs with a lower consequence rating are required to be in conformance by 5 August 2025. South32 does not have any 'extreme' consequence TSFs, with only Worsley Alumina having 'very high' consequence TSFs. Our Principle 15.1 Public Disclosure for Worsley Alumina report, published on 4 August 2023, is available at *www.south32.net*. South32's 'very high' consequence TSFs achieved 100 per cent conformance with the ICMM Conformance Protocols for GISTM as shown in the 2023 Sustainability Databook.

As part of our GISTM commitments, we are undertaking the following activities:

– Completing additional geotechnical investigations to address any gaps in our data;

– Updating dam break assessments; and

– Updating internal tailings-related standards and procedures.

We have refined our risk assessments for all of our operated and active TSFs. Our operations with very-high consequence TSFs have assessed what measures are required to reduce both the probability and the consequences of a TSF failure to a risk level as low as reasonably practicable (ALARP). Dam break assessments across our TSFs defined appropriate classification for potential consequences against the GISTM. The updated assessments, together with our engineering work, informed our engagement with communities on emergency response procedures and the potential impacts of a TSF dam break.

We continued to embed the social requirements in Principle 1 of the GISTM into our procedures, Our Approach to Human Rights, and operational stakeholder engagement plans. At GEMCO and Worsley Alumina we engaged with communities on the tailings lifecycle and worked with relevant community emergency response providers as part of emergency preparedness and response planning. At Cannington, we briefed local councils and communities on the importance of managing TSFs into closure and are committed to ongoing engagement.

Our Responsible Tailings Facility Engineers (RTFEs) regularly inspect and monitor dam and embankment performance. Our Independent Tailings Review Board (ITRB) completed its first TSF review across our Australian TSFs for GEMCO, Cannington and Worsley Alumina. Based on the GISTM classifications, Worsley Alumina has TSFs that have a consequence classification of very high. For all other facilities, independent reviewers contributed to ongoing studies for the GISTM and general operations.

Our alignment with the ICMM tailings conformance protocols were part of KPMG's external assurance work during FY23. We engaged third parties to undertake technical reviews in addition to our internal review process to assess our technical content against industry standards.

+ **Learn more about our 'very high' consequence TSFs in our GISTM Requirement 15.1 Public Disclosure for Worsley Alumina and associated KPMG assurance report at *www.south32.net*.**

+ **The ICMM Conformance Protocols tables are available in the 2023 Sustainability Databook at *www.south32.net*.**

Improving Tailings Modelling

As part of the GISTM, meaningful community and stakeholder engagement is required on the potential downstream impact of a TSF breach.

To improve our understanding around the outflow behaviour of tailings following a TSF failure and to provide the most realistic assessment of the potential community and environmental impact, we sponsored industry research work on both the geotechnical and rheological behaviour of tailings. We included time and energy considerations which are critical in determining the appropriate rheology (the way in which materials deform or flow in response to applied forces or stresses).

The rheological test work commenced in 2018, via funding for the establishment of a testing laboratory in Perth to allow physical scale model testing to be undertaken. This was supplemented in 2020 by providing equipment to the University of Western Australia to allow improved understanding of the geotechnical behaviour of tailings, and in FY23 we provided financial support for further research.

The test methods developed have improved understanding of the outflow behaviour of clayey tailings, including red mud from the alumina industry and slimes tailings from manganese mining. The test methods developed are applicable to all clay/silt-based tailings.

The geotechnical and rheological test work has been presented at industry conferences, published in international journals and shared with the wider mining industry. It shows a reduction in outflow volume for clay/silt-based tailings, compared to current industry modelling, thereby helping provide more accurate assessments of potential community impact.

Looking ahead

As we continue to manage tailings, activities planned for FY24 and beyond include:

– Continuing to implement the GISTM requirements for all of our South32-operated TSFs, including implementing the standard for all lower potential consequence TSFs by 5 August 2025;

– Broadening remote monitoring on the Decipher platform; and

– Continuing work with the ICMM and industry partners on innovations to reduce and retreat tailings and learn from industry best practice.

Reducing Tailings Storage Facilities Risk

The safe design and management of TSFs is important to prevent the risk of TSF failure. Minimising surface water on TSFs can play a role in reducing this risk by increasing the density of the tailings and stability of TSFs.

For all South32-controlled operations, we aim to minimise the volume of water stored on our TSFs to less than 10 per cent under normal operation, and design surface water recovery systems to remove storm water within 30 days.

We partnered with a satellite provider to develop an algorithm to allow TSF pond size to be tracked, via satellite, every two weeks across all South32-controlled operations, with each receiving direct reports on their TSF pond size for actioning. Satellite tracking of pond size is now a key monitoring tool, through the Decipher platform, and pond size has become a critical control in TSF safety.

The close control of pond size has increased tailings density and strength and reduced the outflow potential of the tailings, in the unlikely event of a dam wall breach.

While this initiative was aimed at lowering the overall risk profile of our TSFs, the increase in tailings density that has been achieved has also allowed more cost-effective use of the available storage volume. This practice has been formalised in our internal dam management standard.

WASTE, CONTAMINATION AND OTHER EMISSIONS

We are committed to reducing waste generated from our operations and managing contamination and other air emissions to minimise any impact on neighbouring communities and the environment. The safe management of waste and other emissions from our operations and projects, including managing contamination risks, is essential to operating responsibly.

FY23 at a glance

› Continued to strengthen our management and monitoring measures of dust and noise across several of our operations

› Conducted stewardship reviews at our manganese mines in South Africa and Australia

› Continued to undertake remediation activities related to legacy hydrocarbon contamination at Milner Bay, Groote Eylandt associated with GEMCO

FY24 focus areas

› Reviewing our material waste, contamination and other air emission risk controls

› Implementing select circular economy initiatives, identified through pilot studies at Worsley Alumina and Mozal Aluminium

› Upgrading the air quality management systems at our South African operations

Performance snapshot

5%
reduction in generation of hazardous mineral waste[1] year-on-year.

2
circular economy pilot studies completed at Worsley Alumina and Mozal Aluminium.

0
significant new areas of contamination reported.

ICMM Principle

02 Decision-Making	04 Risk Management	06 Environmental Performance
08 Responsible Production		

South32 supports the UN SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION

9.4   12.2

UNGC Principle

ENVIRONMENT

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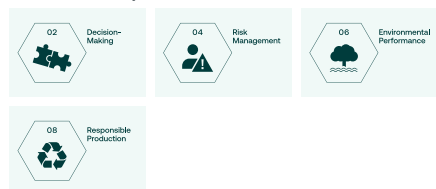
(1) Hazardous mineral waste is based on classification by local legislation. This includes hazardous mineral waste from processed raw materials, non-hazardous waste that is comingled with hazardous materials, as well as tailings, slimes, sludge, residues, slag, fly ash, gypsum and coal rejects.

Our approach

Waste

Reducing waste generated from our operations is a key part of our commitment to continuously improving our sustainability performance. The bulk of our waste volumes originate from tailings, which are the materials left after we have removed the target minerals from the ore. Other waste streams include rock, water and materials containing hazardous chemicals or with dangerous physical properties, as well as non-hazardous waste. Learn more about tailings management on pages 74 to 77.

Poorly managed waste can lead to contamination problems which can adversely impact communities and the environment. We manage waste in line with the ICMM Mining Principles: 2 – Decision Making, 4 – Risk Management, 6 – Environmental Performance and 8 – Responsible Production. We also apply the mitigation hierarchy that limits waste production and prioritises waste prevention, followed by minimisation, reuse, recycling, energy recovery and disposal.

Our commitment to safe waste management is supported by our Sustainability Policy and managed through our Chief Technical Officer approved internal environment and climate change standard. The standard sets out the minimum performance requirements for our operations to effectively classify, quantify, manage and dispose of waste. Operations are responsible for implementing the standard, while our Technical function is accountable for providing stewardship oversight of performance and for supporting the business and operations to identify technology that could materially reduce waste generation.

Our internal standard outlines the requirements that operations use a waste register to improve the way they identify, assess, quantify and report risks and opportunities associated with all their waste streams to:

– Implement effective procedures and controls intended to handle, segregate, store, transport and dispose of their waste;

– Maintain a record of all waste that is moved off-site for disposal in line with local laws and internal requirements; and

– Implement risk-based governance processes intended to verify the treatment, handling and disposal adheres to local laws and internal requirements.

Contamination

The nature of mining and processing activities, if not appropriately managed, may lead to potential contamination through discharges and runoff, heavy metal contamination, spills, leaks or leaching of chemical elements.

Our approach to managing contamination is informed by relevant laws and the ICMM Mining Principles: 2 – Decision Making, 4 – Risk Management, 6 – Environmental Performance and 8 – Responsible Production. Performance requirements to identify, predict, and manage contamination risks are set out in our internal environment and climate change standard.

Our approach to contamination prediction and management focuses on early identification, detailed analysis of potential risk exposure, and implementation of fit for purpose controls. We apply a risk-based approach to manage contamination, employing the Source-Pathway-Receptor (SPR) assessment method to identify actual or potential contamination risks, and implement controls to minimise adverse environmental impacts, maintain compliance, prevent impacts to human health and reduce long-term costs and closure liabilities. Our stewardship program is designed to provide: second-line assurance over conformance with our internal environment and climate change standard, risk reviews and an assessment of the effectiveness of controls designed to manage contamination risks.

All of our operations are required to maintain an updated contamination register outlining the location of all known contamination as well as a description of the history of the originating event, control actions and remediation details.

In the event of an emergency, our internal security, crisis and emergency management (SCEM) standard sets minimum performance requirements and controls to manage risks related to our emergency response processes, with the aim of protecting our people, and minimising impacts on the environment and surrounding communities. For further information see page 22.

Other air emissions

Other air emissions refer to non-greenhouse gas air emissions from our operations such as sulphur oxides (SOx), nitrogen oxides (NOx), particulates (including dust), odour, vibration, light and noise. Our approach to managing other air emissions considers the acute, incremental and cumulative impacts of other air emissions on sensitive receptors, including communities located within the relevant airshed.

Like our approach to waste and contamination, managing other air emissions is informed by relevant laws and the ICMM Mining Principles : 2 – Decision Making, 4 – Risk Management, 6 – Environmental Performance and 8 – Responsible Production. We also apply a risk-based approach to identify and minimise air pollutants and their impacts using the SPR assessment method. Performance requirements to manage other air emissions are set out in our internal environment and climate change standard, and subject to our stewardship program.

Dust associated with mining activities is a challenge that we carefully monitor and manage. We monitor air quality using sensitive receptors inside and outside of site gates. Many of our operations use real-time telemetered air quality and noise monitoring programs and supplement these with high volume air samplers and dust deposition gauges when required. We aim to manage dust by identifying dust occurrences early, conducting a detailed analysis of the potential risk exposure to environment and community receptors and implementing fit-for-purpose controls, including dust monitoring systems and the implementation of Trigger Action Response Plans (TARPs) once certain dust triggers are reached.

We integrate data from air quality monitoring programs into our global environmental data management platform, EQuIS. This platform analyses performance and identifies trends to improve decision-making and performance to protect air quality, maintain compliance and help protect the health of people in local communities.

Our performance and progress in FY23

Waste

As part of our continuous improvement, this year we updated our waste-related performance requirements in our internal environment and climate change standard to strengthen waste management across our operations. All operations are required to complete a self-assessment against the requirements of the internal standard and complete agreed action plans to close any identified gaps. As we embed these requirements, our Technical function supports operations to improve the application of the waste hierarchy and identify opportunities to improve the management of our waste streams through the ongoing implementation of common environmental risk categories.

Careful segregation and containment of waste provides the opportunity for material to be recovered and beneficially used in the future as the national and international circular economy matures.

In FY23, we completed two circular economy pilot studies at Worsley Alumina and Mozal Aluminium, with both operations developing Circularity Roadmaps. The Worsley Alumina Circularity Roadmap identified organisational, material, and procurement initiatives with recovery and reuse of process waste streams offering the greatest social, environmental and financial value.

The Mozal Circularity Roadmap adopted roadmap pillars of procurement, materials circulation, resourcing and governance to form a systemic approach for the integration of circularity. One materials circulation initiative identified was the elimination of single-use water bottles and food packaging to address approximately 77,000 single use items used by Mozal Aluminium each year. Mozal Aluminium participated in World Environment Day 2023, which this year focused on actions to beat plastic pollution and accelerate action to transition to a circular economy. At Mozal Aluminium, single use plastics continue to be recycled into containers which are donated to the community for

uses including potable water storage. It also donates pallets for use as building materials and bricks for use as paving.

Learnings from circular economy pilot studies will be applied to other parts of our business as we continue to develop our approach to circular economy.

Contamination

Our internal environment and climate change standard includes performance requirements to promote improved management and governance of areas potentially subject to contamination, inclusive of land, surface water and groundwater. We continue to work on embedding these requirements at our operations.

This year, we continued to undertake remediation activities related to legacy hydrocarbon contamination at Milner Bay, Groote Eylandt, associated with GEMCO. The initiative has shown promising signs in reducing the area exposed to contamination and aims to be completed prior to mine closure.

Using Scientific Research to Enhance Remediation

We are tackling the remediation of a historic hydrocarbon impacted site at the working port of Milner Bay on Groote Eylandt, where GEMCO is based.

As the port is active and a critical connection to the outside world, decontamination activities could have been left until mine closure, however we wanted to bring them forward to reduce the risk of impacts to adjacent ecosystems and communities.

Initial sample collection for laboratory tests commenced in 2020, and in collaboration with the Commonwealth Scientific and Industrial Research Organisation, we have identified that a unique community of microbes are breaking down the historic diesel spill into harmless substances, principally carbon dioxide and water. Work is underway to enhance the natural subterranean process by providing these microbes with a mix of nutrients and ameliorants to increase the rate of contamination breakdown.

While the program is ongoing, the hydrocarbon contamination is contained and consistently reducing in volume. The contamination is no longer a threat to adjacent ecosystems, either terrestrial or marine.

This initiative is part of a broader Milner Bay remediation strategy and action plan, which was developed in consultation with the ALC and seeks to reach the best possible outcome for all stakeholders.

In FY23, no significant new areas of contamination have been reported.

All operations are required to manage the potential for acid rock drainage (ARD) as outlined in our internal environment and climate change standard. In FY23, operations were required to report ARD, which is predicted to occur at Cannington, Cerro Matoso and the Hermosa project. ARD is actively managed at Cannington through application of appropriate cover systems and stormwater management. Cerro Matoso commenced an ARD study in FY23. While still ongoing, potential learnings from the study will be incorporated into planning, while stormwater is actively managed.

Other air emissions

To improve our management of air quality, this year we updated our other air emission performance requirements in our internal environment and climate change standard, with an emphasis on the use of the SPR assessment methodology. We convened an internal working group of subject matter experts and representatives from our operations and functions who regularly meet to discuss innovation and opportunities to improve performance. This year we formed a sub-group to conduct regular stewardship reviews, with findings reported to risk owners and the Board Sustainability Committee. We continue to undertake stewardship activities across our operations to identify further enhancements to our existing air quality management practices and governance processes.

We take our responsibility to the communities near our operations very seriously, including those associated with community health. We continue to strengthen our monitoring and management of dust across our operations.

At our manganese operations, we have extensive dust monitoring systems in place and have invested in further monitoring systems this year at GEMCO as we commence operations at the Eastern Leases Project. We have continued to enhance our dust controls to reduce ambient dust exposure, including road sealing, creation of dust barriers, stockpile area redesign and the construction of additional water fill points to service the deployment of water carts. We work closely with the Anindilyakwa Land Council (ALC) to support improved dust awareness and management within the local Groote Eylandt community. In South Africa, we hold regular community engagement forums to update our external stakeholders on our approach to dust management, including the controls we have in place.

We continue to monitor emerging research and studies in relation to potential manganese exposure and dust monitoring strategies. We are a member of the International Manganese Institute (IMnI), a not-for-profit industry association, that provides guidance and research into best practice management of potential community health impacts.

We continue to work with stakeholders within the area of influence of the Hotazel Manganese Mines (HMM), including port and communities, with additional monitoring and management improvements in progress. We also continue to strengthen our governance and assurance processes at HMM, including outside the gate, by establishing minimum requirements for contractors that work for us and undertaking regular reviews of contractor performance.

The reduction of particulates, particularly dust and diesel, is a significant challenge in our underground mines. This year we continued our support for the Electric Mine Consortium, which aims to accelerate progress to mine electrification. Electrification poses many opportunities to reduce exposure to diesel particulates, amongst other economic and environmental benefits.

At Cannington, we are undertaking electric vehicle (EV) trials in our light and auxiliary fleet, testing their safety, reliability, range and capability. This year multiple charging stations were installed as part of the trial program, which is expected to continue for at least 12 months. Through our involvement with the EMC trials, we have learnt from consortium partners and look to apply learnings in our electrification initiatives. One such example is at the Hermosa project, where we have included primary and secondary battery electric charge bay infrastructure into the Hermosa underground mine design.

Looking ahead

As we continue to proactively manage waste, contamination risks and other air emissions, our focus in FY24 and beyond is on:

– Completing operational self-assessments of conformance to the revised internal environment and climate change standard;
– Reviewing our material waste, contamination and other air emission risk controls;
– Upgrading the air quality management systems at our South African operations; and
– Implementing select circular economy initiatives, identified through pilot studies at Worsley Alumina and Mozal Aluminium.

CLOSURE

From exploration through to closure and beyond, we seek to minimise our impacts and maximise opportunities for the surrounding environments. We undertake progressive rehabilitation where possible and aim to leave a positive legacy in our host communities.

FY23 at a glance

› Furthered our closure vision and planning processes and continued to work on integrating biodiversity and rehabilitation management into closure planning

› Engaged with key stakeholders on post mining land use at Groote Eylandt Mining Company (GEMCO) and Cannington

› Assessed closure risk and financial contingencies associated with climate change risk

FY24 focus areas

› Developing a cross-functional operating model for closure, enhancing our closure readiness approach

› Progressing social research activities to refine our social impact and opportunities for closure

› Commencing closure concept studies for Mozal Aluminium and Dendrobium mine at Illawarra Metallurgical Coal (IMC)

Performance snapshot

100%
of operations have closure plans in place.

2
operations with less than 10 years before their expected closure date with detailed closure engineering studies underway.

ICMM Principle

| 02 Decision-Making | 03 Human Rights | 04 Risk Management |
| 06 Environmental Performance | 08 Responsible Production | 09 Social Performance |

South32 supports the UN SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE — 9.4

12 RESPONSIBLE CONSUMPTION AND PRODUCTION — 12.2

17 PARTNERSHIPS FOR THE GOALS — 17.16

UNGC Principle

ENVIRONMENT   HUMAN RIGHTS

Our approach

Closure

Closure is a crucial aspect of our operational lifecycle, and we prioritise effective planning for closure from the early stages of development and throughout the life cycle of our operations. It is a complex process that involves collaboration with various stakeholders, including our employees, local businesses, communities, Traditional Owners, industry associations, and regulators. We aim to communicate opportunities in the closure planning and execution process to our host communities, and work towards safe and sustainable environmental outcomes, while also supporting socio-economic outcomes during the closure process.

To ensure proper guidance and adherence to best practices, we partner with industry leaders and forums such as the ICMM Closure Working Group and the Cooperative Research Centre for Transformations in Mining Economies (CRC TiME). Our approach aligns with the ICMM Mining Principles: 2 – Decision Making, 3 – Human Rights, 4 – Risk Management, 6 – Environmental Performance, 8 – Responsible Production and 9 – Social Performance, and is supported by our Sustainability Policy. We also follow the ICMM Integrated Mine Closure Good Practice Guide and adhere to our internal closure standard, which encompasses closure commitments, planning, cost estimation, progressive rehabilitation of ecosystems, and closure execution. Our closure activities also support the United Nations Sustainable Development Goals.

Our closure activities and performance are overseen by our Chief Operating Officers, with support from closure specialists who offer technical expertise. Each of our operations have a closure plan that outlines criteria, land use options, and cost estimates for closure and progressive rehabilitation. These closure plans are regularly assessed against our internal standards and procedures by independent auditors, and we benchmark our planning approach against that of industry leaders.

We review our closure plans annually and conduct comprehensive updates every three years to factor in climate change impacts, evolving operating contexts, legislative requirements and stakeholder expectations. Through these processes, we ensure compliance with regulatory obligations and enhance the governance controls within our business, especially considering significant reforms and shifting social expectations in some jurisdictions where we operate. For example, this includes Queensland's new requirements for a progressive rehabilitation and closure plan for site-specific mining environmental authorities. We are also anticipating changes in the South African context associated with the *National Environmental Management Act*.

Closure poses various challenges, including ecosystem rehabilitation, just transition planning for local communities, climate risk mitigation, evolving stakeholder expectations, and emerging closure-related regulations. Our approach encompasses addressing these challenges throughout the project phases before closure execution. We establish governance working groups, engage with the Sustainability Committee, and continuously refine our closure governance and performance across all operations.

Our internal closure planning processes make provisions for instances when rehabilitation is delayed due to operational requirements and reschedule rehabilitation at a future date.

Through our comprehensive approach to closure, we strive to achieve responsible and sustainable outcomes while meeting regulatory requirements and fulfilling our commitments to all stakeholders.

Our performance and progress in FY23

This year, we have furthered our closure vision and planning processes and continue to work on integrating biodiversity and rehabilitation management into closure planning. Our vision is supported by closure objectives, with a focus on the benefits for current and future generations from the transition of our operations to safe, stable, and productive land uses.

Detailed closure engineering studies have begun for operations with less than 10 years before their expected closure date. The studies examine post-mining land uses, current infrastructure and land use, remediation and rehabilitation, and an assessment of the socio-economic impact on communities.

In FY23, closure planning activities included:

– Engaging with our host communities and governments, including the Northern Territory Government and the Anindilyakwa Land Council (ALC) at GEMCO, to create a shared vision and plans for the future of Groote Eylandt post-mining;

– Progressed relevant studies for closure for GEMCO and Cannington aligned to our internal closure standard;

– Defining our closure governance and risk analysis processes, including updating our management controls associated with our closure-related risks;

– Conducting in-depth reviews to test our cost estimates for accuracy for Worsley Alumina, the Eagle Downs Metallurgical Coal project, Mozal Aluminium, and the Hermosa project, as well as updating cost estimates for all operations for additional disturbance and macro-economic impacts;

– Understanding closure risk and financial contingencies associated with climate change risk; and

– Developing stewardship processes over the consistent application of tools and processes.

This year we continued to integrate biodiversity and rehabilitation management in our closure plans, with a focus on:

– Advancing land and progressive rehabilitation integration into business planning, conducting biodiversity research and supporting better performance and outcomes;

– Progressing strategic conservation partnerships in the regions where we operate; and

– Introducing performance requirements to promote improved management and governance of areas potentially subject to contamination, including land, surface water and groundwater.

GISTM requirements and closure

Our Tailings Storage Facilities (TSFs) can be a permanent feature of the landscape post mining activities. This year we continued to implement the Global Industry Standard Tailings Management (GISTM), which includes comprehensive considerations of the design, construction, operation, maintenance, monitoring and closure of TSFs.

Throughout closure, TSFs may undergo physical changes such as consolidation, reshaping, capping, rehabilitation, and may also be subject to future physical climate change impacts. Stakeholder engagement with affected communities on decisions that may affect public safety and the overall integrity of the facility, are an important part of implementing the GISTM.

Stakeholder engagement and social responsibility

This year, our engagement with communities and regulators increased across many jurisdictions. This included ongoing discussions about post mining land use at GEMCO and Cannington with key stakeholders. We have setup a governance process to facilitate continued engagement with the newly established closure steering committee consisting of GEMCO, the ALC, the Northern Territory Government and Federal Government.

Through our multi-year research partnership with the University of Queensland (UQ) Centre for Social Responsibility in Mining we are integrating the social aspects of closure into our closure plans. Recognising that the social aspects of closure differ to how we assess the impacts of an existing operation, we worked with the UQ Centre for Social Responsibility in Mining to review and refine our social impact and opportunities methodology for closure studies. This work has helped mature our assessment processes and will enhance our engagement with communities on their post mining future.

Looking ahead

Looking ahead to FY24 and beyond, our plans include:

– Conducting further pre-feasibility studies at GEMCO and Cannington;

– Continuing engagement with relevant stakeholders;

– Progressing social research activities to refine our social impact and opportunities for closure;

– Developing a cross-functional operating model for closure, enhancing our closure readiness approach;

– Participating in natural capital studies; and

– Commencing closure concept studies for Hillside Aluminium, Mozal Aluminium, and Dendrobium mine at IMC.

Planning for Closure Early

In FY23, we developed a mine closure plan for the Hermosa project, where we are currently undertaking feasibility and prefeasibility studies for the Taylor and Clark Deposits, respectively.

Preparing a mine closure plan at this relatively early stage in the mining lifecycle has provided the opportunity to integrate mine closure planning, risk assessment and financial provision into the overall development plan of a greenfield project. It has also enabled the mine closure plan to be available to support the regulatory approvals process for the project.

The mine closure plan considers aspects including historical and proposed future (post closure) land use, corporate and legal frameworks relevant to closure, the environmental setting, the socio-economic setting, closure methodology, closure monitoring, and risks and opportunities.

The mine closure plan has been submitted to relevant regulatory agencies as part of the approvals process for Hermosa. It may also be made available for public comment at the regulators' discretion.

As is the case with all of our operations, the Hermosa mine closure plan will be regularly updated as the project progresses and as our approach to closure planning for Hermosa matures.

Building an Education Legacy

Cerro Matoso, based in the Cordoba region of Colombia, has been operating for more than 40 years and education is one of the operation's focus areas for social investment. We believe that contributing to education can be part of Cerro Matoso's legacy for Cordoba by providing skills that outlast the operation. We have partnered with Servicio Nacional de Aprendizaje (SENA), the national training service in Colombia, and other organisations to invest in education facilities and equipment over three phases.

The first phase, which was delivered in 2017, and the second phase, which was delivered in 2019, included buildings for SENA to deliver training in areas such as mechanical, electrical, refrigeration, automation, welding and construction. The third phase, delivered in 2021, focused on facilities for agricultural production, meat and fruit processing, baking and cooking. This phase highlighted the tradition and culture of Cordoba around livestock and agricultural activities and allowed 1,200 apprentices to train in careers that can contribute to the diversification of the economy and the preservation of local traditions.

The project involved the investment of US$4.8 million, including social investment and a 'Works for Taxes' mechanism which allows the private sector to use taxes (to be paid to the State) to build public infrastructure (assigned by the State), that benefit the local population.

Over the last five years, more than 10,000 apprentices and 3,200 graduates have utilised the SENA facilities in Cordoba.

Investments such as these can help diversify economies, prepare them for a future beyond mining and create legacies for future generations.

ADDRESSING CLIMATE CHANGE

Our approach to climate change is integrated with our strategy and is designed to protect and unlock long-term value, build operational resilience, and enhance our competitiveness in a low-carbon world. As a global mining and metals company, we have an important role to play in responding to the risks and opportunities of climate change: to produce commodities that are critical in the transition to a low-carbon world; and to do so in a way that seeks to minimise our impact.

IN THIS SECTION

About this Addressing Climate Change Section of the Sustainable Development Report

This section of the Sustainable Development Report (Climate Change Section) outlines how South32 is addressing climate change and should be read in conjunction with our Climate Change Action Plan (CCAP) which is available at *www.south32.net*. The CCAP and this Climate Change Section are intended to assist South32's investors with understanding its policies and practices in responding to climate change. Neither this Climate Change Section nor the CCAP have been prepared as financial or investment advice or to provide any guidance in relation to the future performance of South32.

Details about the reporting boundaries of the Sustainable Development Report and this Climate Change Section (including metrics describing greenhouse gas (GHG) emissions) are set out in the Reporting Boundaries tab in our 2023 Sustainability Databook at *www.south32.net*.

Forward-looking statements and scenario analysis

Like certain other sections of the Sustainable Development Report, this Climate Change Section contains forward-looking statements, including statements in relation to climate change and other environmental and energy transition scenarios. While these forward-looking statements reflect South32's expectations at the date of this report (including with respect to its strategies and plans regarding climate change), they may be affected by a range of variables which could cause actual outcomes and developments to differ materially from those expressed in such statements. These variables include but are not limited to: financial and economic conditions in various countries; fluctuations in demand, price, or currency; operating results; development progress including approvals; risks, including physical, technology and GHG emissions reduction risks; industry competition; loss of market for South32's products; legislative, fiscal, and regulatory developments; the conduct of joint venture participants and contractual counterparties, and estimates relating to cost, engineering, reserves and resources. For further information regarding South32's approach to risk, see pages 28 to 37 of our Annual Report.

South32 makes no representation, assurance or guarantee as to the accuracy, completeness or likelihood of fulfilment of any forward-looking statement, any outcomes expressed or implied in any forward-looking statement or any assumptions on which a forward-looking statement is based.

There are also inherent limitations with respect to the scenario analysis which is discussed in this Climate Change Section, and it is difficult to predict which, if any, of the scenarios might eventuate. Scenarios do not constitute definitive outcomes or probabilities, and scenario analysis relies on assumptions that may or may not be, or prove to be, correct and may or may not eventuate. Scenarios may also be impacted by additional factors to the assumptions disclosed. Except as required by applicable laws or regulations, South32 does not undertake to publicly update or review any forward-looking statements. South32 cautions against reliance on any forward-looking statements or guidance, particularly in light of the long time horizon which this Climate Change Section discusses and the inherent uncertainty in possible policy, market and technological developments in the future.

Refer to the inside cover of this Sustainable Development Report for other important information regarding South32's approach to reporting on climate change and sustainable development generally.

Information prepared by third parties

Certain information contained in this Climate Change Section is based on information prepared by third parties. South32 does not make any representation or warranty that this third party material is accurate, complete or up to date.

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UNGC Principle

ENVIRONMENT   HUMAN RIGHTS

OUR APPROACH

We support the objectives of the Paris Agreement and have a long-term goal[1] to achieve net zero greenhouse gas (GHG) emissions across all scopes (i.e. Scope 1, 2 and 3) by 2050.

We also have a medium-term target[2] to halve our operational GHG emissions by 2035 from our FY21 baseline[3].

We are working to deliver our goal and target as described in our Climate Change Action Plan (CCAP) which was published in September 2022. This section of our Sustainable Development Report, along with our Sustainability Databook, provides our first annual update of progress in delivering our CCAP.

Our CCAP describes the actions we are taking to address the risks and opportunities that climate change presents for our business and was prepared in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This chapter of this Report includes a number of our disclosures against the TCFD's four recommendations and 11 recommended disclosures. A table setting out each of the TCFD's 11 recommended disclosures, and where information relating to each recommended disclosure can be found across our Annual Reporting Suite, is available in the TCFD Index tab in our 2023 Sustainability Databook at *www.south32.net*.

In line with our ICMM membership requirements, we obtain independent assurance over selected sustainability information.

+ **Learn more about our FY23 Independent Assurance Report in our 2023 Sustainability Databook at *www.south32.net*.**

Our approach to climate change is aligned to our purpose and integrated with our strategy, and is focused on:

- Reshaping our portfolio to the commodities that are critical in the transition to a low-carbon[4] world;
- Decarbonising our operations, with a focus on the four operations within our portfolio which account for the majority of our GHG emissions profile;
- Understanding and responding to the potential physical impacts of climate change on our business to build operational resilience; and
- Working with others to innovate and address shared challenges across industry, and to decarbonise the value chain.

As a strategic risk and material governance issue, climate change is overseen by our Board, with the support of its standing Committees. Our Lead Team is accountable for development and execution of our approach to climate change and its implementation is supported through our internal environment and climate change standard. The long-term incentive (LTI) portion of the remuneration of our Lead Team is directly linked to our performance on our approach to climate change and the transition of our portfolio towards the commodities critical for a low-carbon future.

Our approach continues to evolve, considering credible sources of climate science, such as the Intergovernmental Panel on Climate Change's (IPCC) AR6 Synthesis Report: Climate Change 2023 published in March 2023. This report confirmed that climate change is already affecting weather and climate extremes, and disproportionately affecting the world's at-risk populations. The World Meteorological Association's Annual Climate Update (May 2023) forecast that global temperatures are likely to temporarily breach the 1.5°C of warming threshold for at least one of the next five years.

These reports underscore the importance of us reshaping our portfolio towards the commodities that are critical in the transition to a low-carbon world, and investing in GHG emissions reduction and climate adaptation initiatives.

+ **Read our CCAP at *www.south32.net*.**

South32's Climate Change Action Plan

Our CCAP was approved by our Board and put to a non-binding advisory vote at our 2022 Annual General Meeting (AGM) receiving strong shareholder support with 89.6 per cent of the votes cast in favour of the resolution. Following the AGM, management engaged with dissenting material shareholders to discuss their feedback which primarily related to the absence of a short-term GHG emissions reduction target and that our 2035 medium-term target applies to operational GHG emissions (Scopes 1 and 2) only and does not include value chain emissions (Scope 3).

As stated in our CCAP, the transition of our two highest emitting facilities to lower carbon energy sources, Hillside Aluminium and Worsley Alumina, presents complex technical and commercial challenges which will take time to resolve. At this stage we are not confident that we would achieve sufficiently material GHG emissions reductions within the timeframe of a credible short-term target. We will continue to evaluate our options but will only set a short-term target if we have confidence in a credible, viable and just pathway to its achievement. In FY23, we set a new goal of net zero Scope 3 GHG emissions by 2050 and set out our near-term actions to partner with suppliers and customers to address Scope 3 GHG emissions.

The outcome of the 2022 AGM vote and feedback from shareholders will be taken into consideration by our Board in determining our approach to climate change going forward.

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(1) 'Goal' is defined as an ambition to seek an outcome for which there is no current pathway(s), but for which efforts will be pursued towards addressing that challenge, subject to certain assumptions or conditions.
(2) 'Target' is defined as an intended outcome in relation to which we have identified one or more pathways for delivery of that outcome, subject to certain assumptions or conditions.
(3) FY21 baseline adjusted to exclude GHG emissions from SAEC and TEMCO, which were divested in FY21.
(4) Low-carbon refers to lower levels of GHG emissions when compared to the current state. Where used in relation to South32's products or portfolio, it refers to enhancement of existing methods, practices and technologies to substantially lower the level of embodied GHG emissions as compared to the current state.

PORTFOLIO

FY23 at a glance

› Delivered 14 per cent growth in aluminium production and 17 per cent growth in other base metals production, benefitting from our investments in copper and low-carbon aluminium

› Advanced study work for the Hermosa project's Taylor silver-lead-zinc and Clark battery-grade manganese Deposits

› Updated our 1.5°C scenario and reassessed the resilience of our portfolio under a rapid global transition

FY24 focus areas

› Commencing development of the Taylor Deposit, subject to Board approval

› Commencing development of exploration decline to access Clark ore for a planned demonstration plant

› Advancing our pipeline of greenfield exploration opportunities targeting base metals

Reshaping our portfolio

Reshaping our portfolio toward the commodities that are critical in the transition to a low-carbon world is part of our strategy and our approach to climate change.

Our commodity mix today is very different from that of 2015 when South32 was first established. We have exited carbon intensive and lower returning businesses, completing the divestments of South Africa Energy Coal (SAEC) and Tasmanian Electro Metallurgical Company (TEMCO), and have ceased production at the Metalloys manganese alloys smelter. In FY22, we added copper through the acquisition of a 45 per cent interest in the Sierra Gorda copper mine in Chile and grew our share of low-carbon aluminium production by participating in the restart of the Brazil Aluminium smelter and increasing our shareholding in Mozal Aluminium. Our share of Brazil Aluminium is fully powered by renewable energy sources, while Mozal Aluminium is predominantly powered by renewable energy, aside from occasions where back-up power supply is needed. Sierra Gorda transitioned to 100 per cent renewable energy in FY23.

As reported in our CCAP, we committed to not developing or investing in greenfield metallurgical coal projects alongside our FY17 commitment not to develop or invest in new greenfield energy coal basins.

The graphic below shows how our commodity mix has evolved from FY16 to FY23. In FY23, we delivered 14 per cent growth in aluminium production and 17 per cent growth in other base metals production, as we realised the benefit of FY22 transactions that increased our exposure to these commodities.

Production by commodity FY16 vs FY23

FY16

FY23

Legend:
- Alumina
- Aluminium
- Copper
- Nickel
- Silver, Lead, Zinc
- Manganese ore
- Manganese alloy
- Coal

FY16: 15%, 19%, 5%, 8%, 7%, 2%, 44%

FY23: 20%, 31%, 8%, 6%, 7%, 10%, 18%
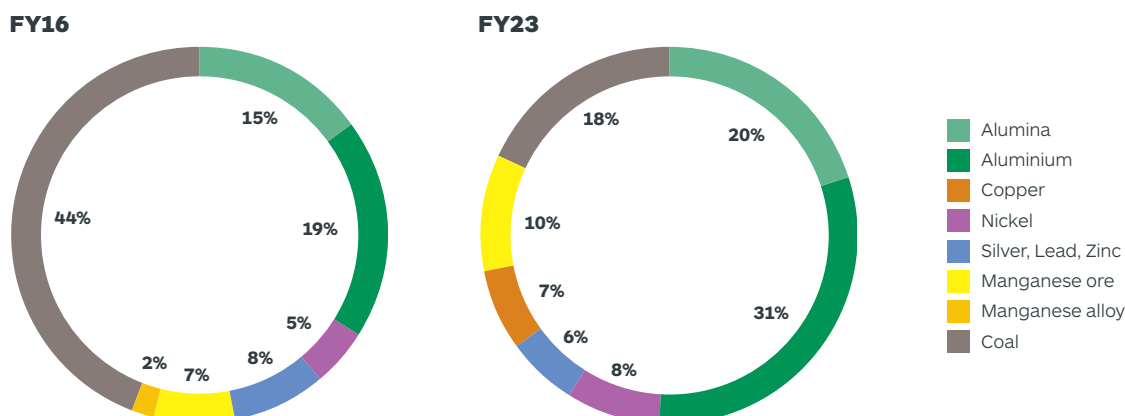
Growth through development and discovery

While we remain open to opportunities around the world, our next phase of growth is expected to come from our development options in North America. We will remain focused on the commodities that are critical in the transition to a low-carbon world.

Hermosa project

Our Hermosa project in Arizona, United States (US) is currently understood to be the only advanced project in the US with the potential to produce two federally designated critical minerals, zinc and manganese. The project comprises:

– The Taylor silver, lead, zinc Deposit, with our pre-feasibility study demonstrating the potential for a low-carbon underground mine, with an initial resource life of up to 30 years. The feasibility study is expected to be completed in the second half of CY23 , ahead of a final investment decision by the end of CY23;

– The Clark battery-grade manganese-zinc-silver Deposit, with our recently completed pre-feasibility selection study confirming the potential for an integrated underground mine, producing battery-grade manganese, plus silver and zinc, over an operating period of up to 70 years; and

– A highly prospective regional land package containing identified copper and base metals targets, with exploration activity and drilling programs underway.

We invested US$256 million towards Hermosa's development in FY23 and expect to spend US$170 million in FY24[5]. In FY23, we approved an approximately US$60 million investment to construct an exploration decline at Clark which will provide access to ore for demonstration scale production of battery-grade manganese into the rapidly forming North American market.

In May 2023, Hermosa was confirmed as the first mining project in the US to be added to the FAST-41 permitting process, underlining its potential to provide localised supply of critical minerals. In collaboration with the US Government we have developed a comprehensive Coordinated Project Plan, providing a more efficient and transparent pathway for federal approvals.

As part of our approach to designing Hermosa, we are applying low-carbon design principles, seeking to leverage automation and technology, and targeting 100 per cent renewable energy supply.

+ **Learn more about the Hermosa project at** *www.south32.net*.

Greenfield exploration

We continue to invest to discover deposits to underpin our next generation of mines with over 25 base metals exploration prospects around the world. We directed US$43 million towards greenfield exploration opportunities in FY23 and expect to invest US$40 million in these opportunities in FY24 as we progress multiple programs targeting base metals in Australia, the US, Canada, Argentina and Ireland.

Our portfolio in Alaska includes our Ambler Metals joint venture in which we have a 50 per cent interest. Ambler Metals holds two sizeable base metals deposits including the high grade, polymetallic Arctic Deposit and the Bornite copper Deposit, as well as a regional exploration portfolio.

At our 100 per cent-owned Roosevelt project, which is located in the same mineral belt as the Ambler Mining District, we commenced an expansive drilling program in 2023 targeting potential copper and zinc mineralisation.

Since 2019, we have invested in greenfield exploration partnerships in Argentina's San Juan province, which hosts several copper deposits along a highly prospective mineral belt. In FY23, we exercised our earn-in right with Minsud Resources for 50.1 per cent of the Chita Valley copper exploration project. We also acquired a 14.8 per cent interest in Aldebaran Resources, whose key asset is an option to acquire a controlling interest in the Altar copper project, also in Argentina.

(5) Guidance for Hermosa reflects H1 FY24, subject to a final investment decision.

Expenditure and capital allocation

Our approach to climate change is integrated with our strategy and an important consideration in how we invest, our strategic decision making and financial planning. This includes:

– Allocation of growth capital to reshape our portfolio to commodities that support the global transition to a low-carbon world;

– Capital and operational expenditure in decarbonisation initiatives to reduce our operational GHG emissions and GHG emissions in the value chain;

– Application of low-carbon design principles for projects at new and existing operations;

– Adaptation activities to mitigate physical impacts of climate change; and

– Co-contributions to research and development partnerships for innovative climate solutions.

In making investment decisions, we consider project returns and the protection of portfolio value, as well as incorporating our carbon pricing assumptions and an assessment of transition risk.

Following our FY22 investments to bring copper into our portfolio and increase our low-carbon aluminium production, we continue to orient our growth capital and our improvement and life extension capital towards commodities with transition-related opportunities. For example, in FY23 we directed capital towards Worsley Alumina for new mining areas, energy security and decarbonisation, and Sierra Gorda, Brazil Alumina and Cerro Matoso for plant de-bottlenecking and expanding processing capacity.

Our capital expenditure on decarbonisation projects and studies has continued to trend upwards, increasing from US$6 million in FY22 to US$30 million in FY23. Our FY24 and FY25 expenditure is forecast to increase to US$40 million and US$90 million respectively. Our forecast FY24 expenditure has reduced from our FY22 guidance due to delays in our mud washing study at Worsley Alumina.

Over time, our investment in GHG emissions reduction initiatives is likely to require a greater proportion of operational expenditure to address our most material GHG emission sources, when compared to many of our diversified mining peers. For example, we are studying options to decarbonise the power supply to Hillside Aluminium and Worsley Alumina. We are focused on options to partner with utility-scale, renewable energy providers to incentivise additional investment through financially viable, long-term power purchase agreements, rather than on-balance sheet development of renewables, storage and associated infrastructure.

As reported in our CCAP, in FY23 we committed to not developing or investing in greenfield metallurgical coal projects, alongside our FY17 commitment not to develop or invest in new greenfield energy coal basins.

Scenario analysis

We use scenario analysis to stress-test the potential impacts of climate change on our business and to inform stakeholders about potential risks and opportunities. We test the resilience of our portfolio against a set of plausible, evidence-based and divergent scenarios that describe a spectrum of global temperature change outcomes.

Climate scenarios are hypothetical and are not intended to represent a full and definite description of the future, but rather highlight the key factors that could drive future developments. They are not forecasts but rather a tool used to enhance critical thinking, refine our strategy and support key business decisions.

Our base case

While we are committed to the goals of the Paris Agreement, current global signposts continue to point towards a probable trajectory of at least 2°C warming. Global GHG emissions remain on an upward trend and there is a persistent gap between the long-term pledges by governments and the private sector, and the level of action taken to date.

Our base case assumes at least 2°C warming and is used for our commodity and carbon price forecasts, planning, budgeting, investment decisions and valuation assessments. It assumes there will be increased commitment to climate action and to priorities which accelerate the transition towards a green economy, raising investments in green infrastructure and mitigating climate risks.

We review and update our base case long-term price outlook on an annual basis, informed by the prevailing market and policy signposts, study findings by established external organisations and internal research.

Together with our base case, we employ scenario analysis and range estimates to stress test our forecasts and business planning for alternative outcomes over the medium- and long-term, including a faster global transition.

Our FY23 1.5°C scenario

In FY21, we developed a 1.5°C scenario (our FY21 1.5°C scenario) and analysed the potential impacts on commodity demand to test the resilience of our portfolio under a rapid global transition.

In FY23, we updated our 1.5°C scenario (our FY23 1.5°C scenario) with support from an external consultant[6], to reflect rapidly evolving climate science, markets and changing stakeholder expectations.

Our FY23 1.5°C scenario construct is primarily based on the International Energy Agency's Net Zero Emissions 2050 scenario (IEA NZE). The IEA NZE sets out one credible pathway to achieving a 1.5°C outcome by 2050, providing a set of general assumptions on commodity demand drivers, scrap availability, material efficiency and carbon prices that we have used to guide analysis of the potential impact on South32's portfolio over the medium- and long-term if a rapid transition is achieved. It does not provide a full and detailed analysis that can be applied directly without further refinement. The World Business Council for Sustainable Development includes the IEA NZE in its climate scenario analysis tool.

We combine the main scenario outputs on transition-related sectors, including electricity, buildings and transport, and a forward-looking view on demand intensities to model commodity demand in our FY23 1.5°C scenario. The scenario accounts for recycling and reuse of metals to arrive at primary demand.

+ **Learn more about the key assumptions used in our FY23 1.5°C scenario on the Portfolio Resilience Tab of our 2023 Sustainability Databook at _www.south32.net_.**

Commodity demand in our base case and 1.5°C scenario

Our base case commodity outlook is developed through a bottom-up approach. We assess existing key policies, economic and technological drivers, and form a view on how they could evolve over the medium-term and long-term. We also consider projections of global and regional economic growth, demographic changes, and pace of urbanisation. We expect global GDP growth to average over two per cent per annum over the next three decades. In the base case, the adoption of cleaner technologies, such as the electrification of vehicle fleets and more efficient blast furnaces, is expected to accelerate. A growing environmental focus is also expected to drive increased scrap usage and demand for better quality raw materials. This underpins the long-term demand for our commodities, including base metals and manganese.

In our FY23 1.5°C scenario, the transition towards a low-carbon world occurs at a much more rapid pace than in our base case across all major sectors. Overall, total demand is higher for most base metals and manganese compared to the base case, while material efficiency assumptions lower the demand for the aluminium value chain and metallurgical coal. Accounting for recycling and increased scrap usage, primary commodity demand shows a similar trend as total demand, with the exception of nickel where significant battery recycling is incorporated. From a supply perspective, higher carbon costs compared to our base case are modelled into the cost curves. Under our FY23 1.5°C scenario, a higher price outlook for most commodities (except lead) is driven by higher demand (required to incentivise new supply) and higher carbon costs faced by producers.

+ **Learn more about the primary differences between our FY23 1.5°C scenario compared to our base case in our 2023 Sustainability Databook at _www.south32.net_.**

(6) This section of the Sustainable Development Report has been created by South32 drawing on selected data provided by Vivid Economics, a McKinsey & Company (which does not include investment advice). This section represents South32's own selection of applicable scenarios and/or our own portfolio data. South32 is solely responsible for, and this section of the Sustainable Development Report represents, such scenario selection, all assumptions underlying such selection, and all resulting findings, and conclusions and decisions. McKinsey & Company is not an investment adviser and has not provided any investment advice.

Portfolio resilience in our 1.5°C scenario

We use commodity and carbon prices in our FY23 1.5°C scenario to assess the resilience of our portfolio under a rapid global transition.

Our analysis indicates that our copper, nickel and manganese businesses would benefit from commodity price upside in our FY23 1.5°C scenario, with only a modest carbon price impact due to their lower carbon intensity. Our silver-lead-zinc business will benefit from higher silver and zinc prices, which is partly offset by lower lead prices. While our alumina and aluminium businesses would also benefit from higher commodity prices, the energy intensity of these businesses means that rapid decarbonisation, by transitioning to low-carbon energy and applying new processing and energy efficiency technologies, would be required to mitigate the carbon price impact. In particular, to be viable in our FY23 1.5°C scenario, Hillside Aluminium would need to fully transition in the near term to renewable energy, and Mozal Aluminium and Brazil Aluminium would need to maintain renewable energy supply into the future. Illawarra Metallurgical Coal would face a high carbon price burden which would more than offset the modest commodity price increase.

Below is our hypothetical assessment of our portfolio in our FY23 1.5°C scenario, which assumes that no management response is taken to mitigate the risks to our business. We use insights from our hypothetical stress-testing as an input into our strategic planning and risk management processes, as appropriate. Recent signposts indicate that limiting global temperature increases to 1.5°C is not a likely outcome.

Portfolio resilience in our FY23 1.5°C scenario, compared to our base case

	Impact on value[1]			
	Commodity prices	Carbon liability	Overall	Commentary
Alumina	▲▲	▼▼	▲	– Our refineries offer long life exposure to higher alumina prices – The higher carbon price would require the industry to rapidly decarbonise to maintain operating margins. Although this would require investment in decarbonisation and lower-carbon energy, our refineries are well positioned given their lower carbon intensity
Aluminium	▲▲	**Hillside** ▼▼▼ **Brazil and Mozal** ▼	**Hillside** ▼▼▼ **Brazil and Mozal** ▬ (Neutral)	– Higher aluminium prices, partly offset by higher alumina (input cost) prices – The aluminium sector would need to transition to low-carbon energy or commercialise processing technologies to mitigate the higher carbon liability – Hillside Aluminium would be uncompetitive in our FY23 1.5°C scenario without an affordable source of low-carbon energy – The impacts on Brazil Aluminium and Mozal Aluminium are mitigated by their access to low-carbon energy, subject to those arrangements being maintained into the future
Copper	▲▲▲	▼	▲▲▲	– Our interest in Sierra Gorda offers exposure to higher copper prices – Minimal impact of higher carbon prices as Sierra Gorda utilises renewable power, subject to those arrangements being maintained into the future – Potential value upside from copper from the Arctic Deposit and regional exploration at the Ambler Metals Joint Venture in Alaska, and the Peake Prospect at the Hermosa project in Arizona
Nickel	▲▲	▼	▲▲	– Cerro Matoso provides exposure to higher nickel prices – Low carbon price impost due to low GHG emissions intensity of Cerro Matoso, subject to maintaining access to low-carbon energy
Silver-Lead-Zinc	▲▲	▼	▲	– Higher silver, zinc and manganese (at the Hermosa project's Clark Deposit) prices, partly offset by lower lead prices (Cannington, the Hermosa project's Taylor Deposit) – Modest carbon price impact given the low GHG emissions intensity of these assets, which could reduce further with our aim for the Hermosa project to be a low-carbon development
Manganese ore	▲▲	▼	▲	– Higher manganese prices in our FY23 1.5°C scenario, which mostly benefits our South African operations given their long reserve life – Low carbon price impost due to the low operational GHG emissions of our manganese operations
Metallurgical coal	▲	▼▼▼	▼▼▼	– Illawarra Metallurgical Coal provides exposure to modestly higher metallurgical coal prices, however it would be uncompetitive in our FY23 1.5°C scenario without a commercial solution for ventilation air methane abatement or other technological breakthrough to abate methane emissions – While alternative direct reduction technologies are expected to increase between 2035 and 2050, we do not currently expect this to have a material impact on demand within the asset's expected operational life

▲ Positive   ▼ Negative   ▬ Neutral

(1) Directional impact on asset value using long-term commodity and carbon prices in our FY23 1.5°C scenario, compared to the base case. This illustrative analysis assumes that no management response is taken to mitigate the risks to our business, and does not include new decarbonisation or energy projects that would be incentivised by the higher carbon price in our FY23 1.5°C scenario.

Differences between our FY21 and FY23 portfolio resilience assessments

In general, our FY23 1.5°C scenario assumes deeper and more rapid transition to a net zero economy by 2050 than our FY21 1.5°C scenario. Our FY23 1.5°C scenario assumes higher long-term carbon prices, greater material efficiencies, scrap usage and recycling, and faster deployment of renewable power and electric vehicles (EVs). It also assumes a shift to manganese-rich battery technology, which was not considered in our FY21 1.5°C scenario.

The updated material efficiency assumptions in our FY23 1.5°C scenario, include improvements in design and manufacturing, lifetime extensions, material substitution and scrap/recycling. This led to lower total and primary demand in our FY23 1.5°C scenario relative to our base case for aluminium and alumina, which was not seen in our FY21 1.5°C scenario. Similarly, for nickel, lower primary demand is attributable to a higher battery recycling rate assumed in our FY23 1.5°C scenario.

Lower demand for metallurgical coal in our FY23 1.5°C scenario is driven by lower total steel production as material efficiency and longer life cycle assumptions in IEA NZE scenario results in lower steel demand, particularly from the buildings and construction sector, and decarbonisation of steel production (which results in unabated Blast Furnace-Basic Oxygen Furnaces being almost phased out by 2050 versus a 28 per cent share by 2050 in our base case).

The impact of these new assumptions on commodity demand in our FY23 1.5°C scenario is partially offset by our assumptions of higher commodity and carbon prices. For example, our FY23 1.5°C scenario applies carbon prices provided by the IEA at a regional level, with advanced economies seeing carbon prices of US$250/t$CO_2$-e in 2050 and emerging market and developing economies reaching US$200/t$CO_2$-e in 2050. This is compared to the global carbon price of US$160/t$CO_2$-e (real January 2021) from 2040 onwards in our FY21 1.5°C scenario.

While the assumptions between our FY21 and FY23 1.5°C scenario have shifted, our FY23 assessment of our portfolio resilience has not materially changed between our FY21 and FY23 assessments. The obvious exception to this, is the addition of copper through our acquisition of a 45 per cent interest in Sierra Gorda in 2022, which has improved the overall resilience of our portfolio.

+ **Read more about the differences between our FY21 and FY23 1.5°C scenarios in our 2023 Sustainability Databook at _www.south32.net_.**

Carbon pricing

Carbon pricing is a key policy tool and enabler to support the global transition to a low-carbon world. We use internal carbon prices to inform our strategic business decisions, and also apply them in assessments of carrying value, formation of commodity price protocols, decarbonisation investment decisions, and procurement of carbon offsets and carbon credits.

In the short-term to-medium-term, our base case applies a carbon price in our key operating regions, based on existing regulations, inclusive of where South32 operates and where our products are sold, and an expectation that GHG emissions allowances will reduce over time. In the long-term, our base case assumes a single global carbon price from FY40, based on an assessment of policy driven costs, market price benchmarks, technological innovation, and the cost of abatement. This assessment considers inputs such as the IEA's estimated future carbon prices, peer practices, spot prices in major emitting countries and regulatory changes such as the European Union's (EU) Carbon Border Adjustment Mechanism.

In FY23, the global carbon price assumption in our long-term base case, which assumes at least 2°C warming, remains unchanged at US$64[7] per tonne from FY40. This price is applied to all of South32's Scope 1 and 2 GHG emissions regardless of the source or geographic location of their production. Our view is that higher carbon prices are likely to be required to accelerate the pace of global decarbonisation. Reflecting this, we adopt in our 1.5°C scenario the carbon price trajectory provided in the IEA NZE scenario: US$250 per tonne for advanced economies with net zero emissions pledges; US$200 per tonne for emerging markets and developing economies with new zero emissions pledges; and, US$180 per tonne for other developing economies in 2050. A materially higher carbon price than those used in our scenario analysis would cause us to re-evaluate the viability of new projects (and potentially not to proceed with certain projects), as well as looking at ways to further reduce costs of existing operations under accelerated transition scenarios.

We continue to assess and update our carbon price forecasts in response to changes in policy, technology and price benchmarks. For example, we have factored in the expected impact of reforms to the Australian Safeguard Mechanism in the Australian carbon market with our low, base, and high cases assuming various degrees of decarbonisation investment by safeguard facilities, which will impact on carbon credit demand.

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(7) Our base case carbon price is indexed to inflation and adjusted annually (real January 2023).

Commodities for a low-carbon world – South32 Snapshot

Our approach to climate change is integrated with our strategy, and we continue to reshape our portfolio and direct capital towards commodities that are critical in the transition to a low-carbon world. This snapshot summarises the FY23 performance of our commodities, and projected performance over the medium-term and long-term under our base case and FY23 1.5°C scenario.

Alumina and Aluminium

Alumina is refined from bauxite and is the key raw material used to produce primary aluminium. Aluminium is lightweight, durable, strong, resistant to corrosion, recyclable and it can conduct electricity, meaning it has a wide range of applications including construction, electrical wiring, transportation, packaging and consumer goods such as electronics and household items.

FY23	Production (kt)	Underlying EBITDA (US$M)	Capital expenditure (US$M)	Operational GHG emissions (Mt CO_2-e)	Operational GHG emissions intensity[8] (tCO_2-e/t product)
ALUMINA					
Worsley Alumina (86% share, South32 operated)	3,839	251	82	3.5	0.8
Brazil Alumina (36% share, non-operated)	1,262	7	58	Non-operated	Non-operated
ALUMINIUM					
Brazil Aluminium (40% share, non-operated)	69	-129	9	Non-operated	Non-operated
Hillside Aluminium (100% share, South32 operated)	719	257	18	12.1	16.8
Mozal Aluminium (63.7% share, South32 operated)	345	108	17	1.6	3.0

In our base case, our projected forecasted aluminium 2030 market outlook is characterised by healthy demand growth (approximately three per cent per annum) driven by the transport and packaging sectors, and the clean energy transition.

In our FY23 1.5°C scenario, aluminium and alumina markets remain stable as total demand increases at a slower pace due to ambitious assumptions on material efficiency gains aligned to the IEA NZE scenario. Confirmed projects and increased secondary production are able to meet the slower demand growth. Aluminium prices remain supported due to higher carbon pricing in our FY23 1.5°C scenario.

Alumina sector CO_2-e intensity (Scope 1 and 2)

■ South32 operated asset ■ South32 non-operated asset[9]
Source: CRU, 2023

Aluminium sector CO_2-e intensity (Scope 1 and 2)

■ South32 operated asset ■ South32 non-operated asset[9]
Source: CRU, 2023

(8) Carbon intensity is calculated as tonnes of Scope 1 and 2 GHG emissions divided by tonnes of saleable product.
(9) CO_2-e intensity for non-operated assets calculated using Scope 3 reported emissions (category 15).

Copper

Copper is a key metal used in electric vehicles and charging infrastructure. It is an excellent conductor of electricity, so as the world moves towards electrification, copper will increasingly be used in power related infrastructure, including renewable energy.

FY23	Production (kt)	Underlying EBITDA (US$M)	Capital expenditure (US$M)	Operational GHG emissions (Mt CO_2-e)	Operational GHG emissions intensity[8] (tCO_2-e/t product)
Sierra Gorda (45% share, non-operated)	**86.5**	**358**	**196**	**Non-operated**	**Non-operated**

Our projected copper 2030 market outlook under the base case is characterised by healthy total demand growth (approximately three per cent per annum), primarily driven by the transport, power infrastructure and consumer durables sectors as its role in the clean energy transition grows.

Under our FY23 1.5°C scenario, the primary market for copper could more than double by 2050 due to its role as a critical material in the energy transition. Decarbonisation of the power grid, which results in significant transmission and distribution expansion and renewables build out, together with higher EV sales, will underpin copper demand. Additional supply is forecast to come from lower grade ores, which are likely to be more costly to extract.

Copper sector CO_2-e intensity (Scope 1 and 2)

■ South32 non-operated asset[10]
Source: CRU, 2023

Nickel

Nickel has an important role to play as the world transitions to a more sustainable future as it is used in alloys in wind and solar power infrastructure. Nickel-rich batteries are also critical for the rapid adoption of electric vehicles.

FY23	Production (kt)	Underlying EBITDA (US$M)	Capital expenditure (US$M)	Operational GHG emissions (Mt CO_2-e)	Operational GHG emissions intensity[8] (tCO_2-e/t product)
Cerro Matoso (99.9% share, South32 operated)	**40.8**	**246**	**38**	**0.8**	**20.3**

The projected base case nickel 2030 market outlook is characterised by healthy primary demand growth (approximately seven per cent per annum) driven by continued demand growth from the stainless steel segment and increasing nickel demand for batteries due to rising EV penetration.

Under our FY23 1.5°C scenario the market for total nickel demand may nearly triple in size by 2050 driven by EV deployment. Primary nickel demand nearly doubles by 2030, however the growth rate moderates beyond 2030 due to increasing nickel availability from battery scrap. Supply is forecast to come from sources in Indonesia, Canada and Australia, which are associated with higher cost of production.

Nickel sector CO_2-e intensity (Scope 1 and 2)
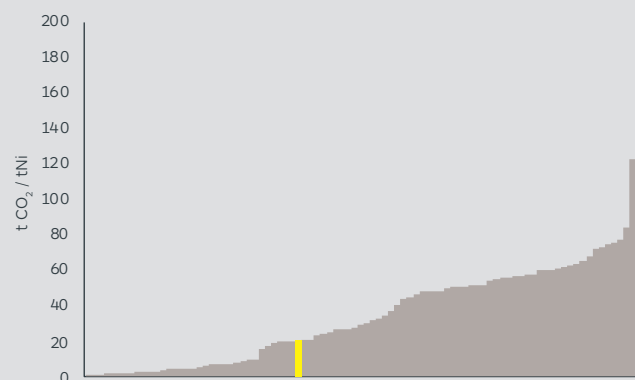
■ South32 operated asset
Source: CRU, 2023

(10) CO_2-e intensity data for Sierra Gorda sourced from CRU global dataset and based on calendar year 2022. Accordingly, it excludes GHG emission reductions from the transition to 100 per cent renewable energy at Sierra Gorda which commenced in January 2023.

Silver-lead-zinc

Silver is used in solar panels due to its superior electrical conductivity, and lead is used in renewable energy storage systems. Zinc protects metals against corrosion and will play a key role in green infrastructure development as a protective coating for wind turbines and solar panels.

FY23	Production (kt)	Underlying EBITDA (US$M)	Capital expenditure (US$M)	Operational GHG emissions (Mt CO_2-e)	Operational GHG emissions intensity[11] (tCO_2-e/t product)
Cannington (100% share, South32 operated)	259.6[12]	213	61	0.1	0.5[12]

In our base case, the zinc 2030 market outlook is supported by healthy total demand growth (approximately two per cent per annum), underpinned by transport, consumer goods and infrastructure sectors. Our base case lead 2030 market outlook is characterised by modest total demand growth (approximately one per cent per annum) as EV adoption grows, reducing the lead intensity in cars.

Silver demand under our FY23 1.5°C scenario is expected to increase due to a more aggressive build out of solar photovoltaic (PV) and EV demand. For zinc demand, renewable energy represents a small but growing market and is expected to see significant growth under our FY23 1.5°C scenario, compared to our base case, due to more extensive use in construction and infrastructure applications and build out of renewables infrastructure, in particular, zinc-intensive offshore wind and solar PV. These demand pressures under our FY23 1.5°C scenario may result in higher prices relative to historical levels in order to incentivise new supply.

Primary lead demand is expected to reduce significantly under our FY23 1.5°C scenario, compared to our base case, due to quicker phase out of internal combustion engine vehicles, higher recycling rates, and the assumption that technological improvements require no lead in EVs.

Silver sector CO_2-e intensity (Scope 1 and 2)
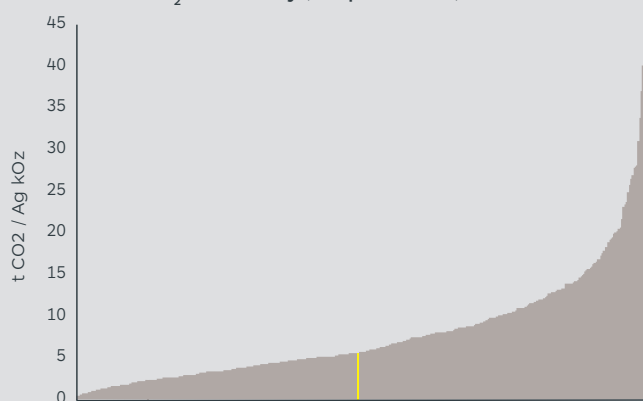
■ South32 operated asset
Source: Skarn Associates Limited, 2023

Lead sector CO_2-e intensity (Scope 1 and 2)
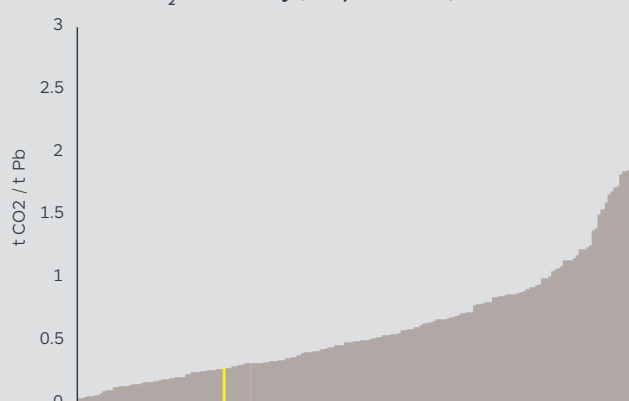
■ South32 operated asset
Source: Skarn Associates Limited, 2023

Zinc sector CO_2-e intensity (Scope 1 and 2)
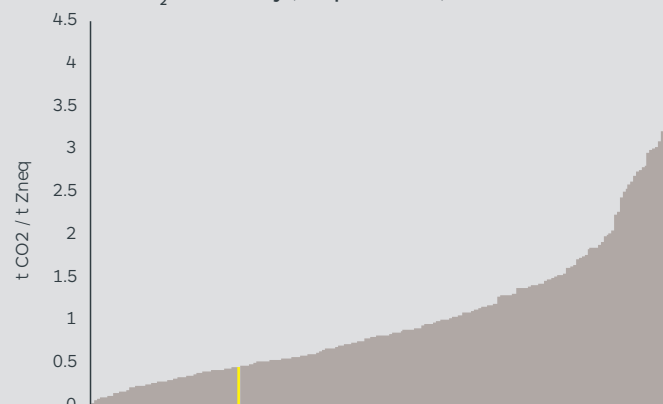
■ South32 operated asset
Source: Skarn Associates Limited, 2023

(11) Carbon intensity is calculated as tonnes of Scope 1 and 2 GHG emissions divided by tonnes of saleable product.
(12) Zinc production used.

Metallurgical coal

As a critical ingredient within efficient steel production, metallurgical coal is a material that ultimately contributes to the affordable construction of high-rise buildings and other key infrastructure such as bridges. Growth in steel demand is anticipated for renewable energy infrastructure development and vehicle electrification.

FY23	Production (kt)	Underlying EBITDA (US$M)	Capital expenditure (US$M)	Operational GHG emissions (Mt CO$_2$-e)	Operational GHG emissions intensity[11] (tCO$_2$-e/t product)
Illawarra Metallurgical Coal (100% share, South32 operated)	6,520[13]	833	248	2.4	0.4[13]

In our base case, the seaborne hard coking coal 2030 market is forecast to continue to see demand growth (approximately one per cent per annum between 2021 to 2031) supported by the establishment of new integrated steelmaking/coke making capacity particularly in India and Southeast Asia, despite increasing scrap usage in China and the establishment of alternative green steelmaking capacity in developed regions.

Under our FY23 1.5°C scenario, demand for coking coal declines steadily after 2025 as the majority of today's blast furnaces are replaced with other production alternatives, and only a minority are converted to use carbon capture and storage.

After stabilising following recent high prices, average hard and semi-hard coking coal prices are expected to increase under our FY23 1.5°C scenario despite lower demand. This is due to high emissions and carbon pricing which also have the potential to reduce margins.

Metallurgical coal sector CO$_2$-e intensity (Scope 1 and 2)

■ South32 operated asset

Source: CRU, 2023

Manganese

Manganese is used to improve the quality and strength of steel and also has the potential to displace cobalt in lithium-ion batteries.

FY23	Production (kwmt)	Underlying EBITDA (US$M)	Capital expenditure (US$M)	Operational GHG emissions (Mt CO$_2$-e)	Operational GHG emissions intensity[11] (tCO$_2$-e/t product)
Australia Manganese (60% share, South32 operated)	3,545	369	58	0.2	0.0
South Africa Manganese (54.6% share, South32 operated)	2,108	66	25	0.2	0.1

In our base case, manganese is projected to have modest demand growth out to 2030 (approximately one per cent per annum) as steel demand is in line with long term crude steel production in the base case. Beyond 2030 though, the battery sector is expected to emerge as a leading driver of manganese demand.

Under our FY23 1.5°C scenario, manganese demand increases marginally faster as growth in demand from EVs and batteries is balanced by declining demand from steel (due to the IEA's material efficiency assumptions). Unannounced projects will be required to meet growing demand from around 2027.

Higher prices relative to historical levels are required to incentivise higher-cost supply from lower grade ore to meet demand.

Note that neither source provider of the intensity curves presented in this section had a manganese sector CO$_2$-e intensity curve readily-available for our use in this Report.

(13) Metallurgical coal production includes energy coal by-product volumes.

OPERATIONAL DECARBONISATION

FY23 at a glance

> Commenced conversion of first coal-fired boiler to natural gas as a transitional step at Worsley Alumina, with an estimated abatement of up to 205,000 tonnes of CO_2-e per year

> Converted 18 per cent of pots at Hillside Aluminium to AP3XLE energy efficiency technology, and completed four of five EnPot trials

> Commenced detailed design and execution planning for a commercial scale trial of CSIRO ventilation air methane mitigator (VAMMIT) technology at Illawarra Metallurgical Coal (IMC)

FY24 focus areas

> Planning for conversion of second coal-fired boiler to natural gas at Worsley Alumina

> Undertaking market testing for renewable power supply at Hillside Aluminium, and piloting the feasibility of acquiring nuclear energy attributes to maintain market access in the near-term

> Preparing for a final investment decision on mud washing at Worsley Alumina, and progressing waste heat to digestion and steam electrification studies

Our decarbonisation target and goal

Our long-term goal is to achieve net zero GHG emissions across all scopes (i.e. Scope 1, 2 and 3) by 2050. Our medium-term target is to reduce our operational GHG emissions by 50 per cent from FY21 levels[14] by 2035. We assess all portfolio and major investment decisions against our medium-term target and long-term goal, which guide our decarbonisation planning and activities.

Our core metrics for assessing and managing climate-related risks and opportunities associated with our GHG emissions reduction target and goal, are Scope 1 and 2 GHG emissions (described in this section) and Scope 3 GHG emissions, described from page 111. Metrics for other climate related topics such as water, energy, land use and waste are captured in relevant chapters of this Report and sections of our 2023 Sustainability Databook.

A breakdown of our FY23 GHG emissions by source and operation is available in our 2023 Sustainability Databook at *www.south32.net*, along with a details of the methodology used to calculate our reported GHG emissions. Scope 3 GHG emissions in the value chain are reported on pages 111 to 112.

As described in our CCAP, our medium-term target signals our focus on achieving a step-change reduction in operational GHG emissions by 2035. However, we do not expect our GHG emissions to reduce in a gradual or linear trajectory towards our medium-term target, and in some years our GHG emissions may increase.

Our medium-term target and long-term goal apply to our Group-wide business. Separately, we have taken into account the regulatory targets, baselines, carbon budgets and other GHG emissions-related indicators specific to each facility that are set by, or comply with, various national and sub-national regulatory schemes in the jurisdictions in which we operate.
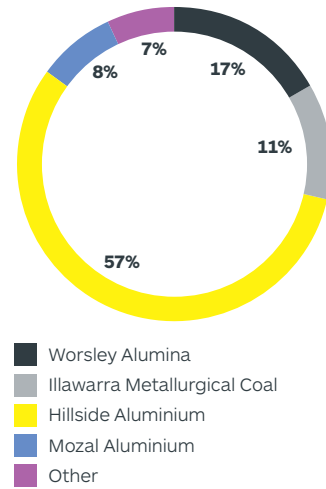
(14) FY21 baseline adjusted to exclude GHG emissions from SAEC and TEMCO, which were divested in FY21

FY23 operational GHG emissions

Scope 1 and 2 GHG emissions
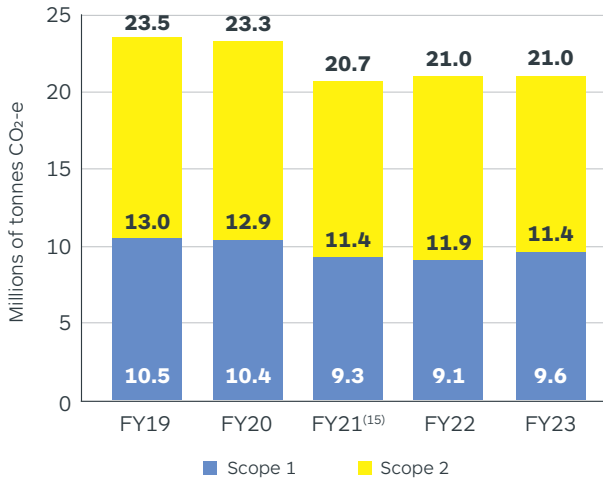
FY23 Scope 1 and 2 GHG emissions by asset[16]

- Worsley Alumina
- Illawarra Metallurgical Coal
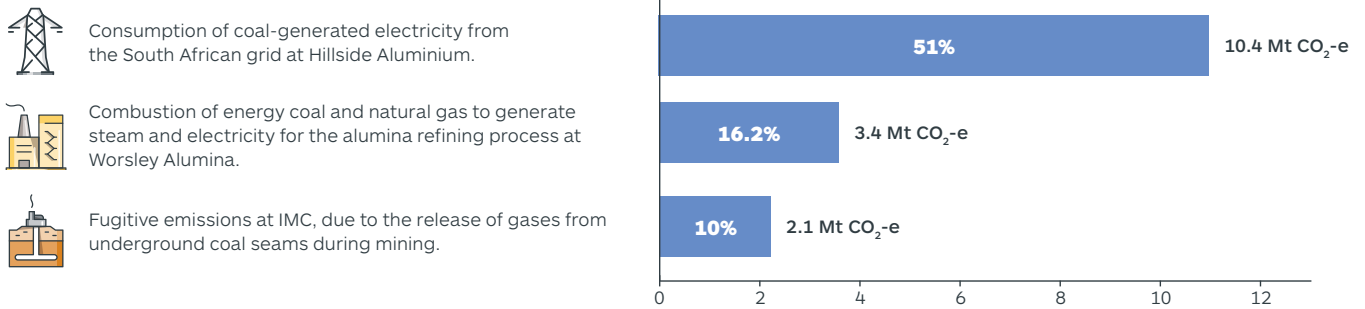- Hillside Aluminium
- Mozal Aluminium
- Other

Our reported Scope 1 and Scope 2 GHG emissions for FY23 were 21.0 Mt CO_2-e, a 0.2 per cent increase from our FY22 GHG emissions and a 1.6 per cent increase from our FY21 baseline.

Scope 1 GHG emissions from activities at our operations increased in FY23 by 0.5 Mt CO_2-e largely due to increased fugitive emissions from IMC associated with gassier mine areas (0.3Mt CO_2-e), and increased fugitive emissions due to increased instances of potline instability at Mozal Aluminium (0.3 Mt CO_2-e). These increases are partially offset by a reduction in Scope 1 GHG emissions at Worsley Alumina of 0.1 Mt CO_2-e compared to FY22.

While our Scope 1 GHG emissions increased, there was a decrease of 0.4 Mt CO_2-e in GHG emissions from electricity used by our operations (Scope 2). The primary driver was the decrease in the grid emission factor[17] for the South African electricity grid, with Hillside Aluminium's Scope 2 GHG emissions decreasing by 0.4 Mt CO_2-e despite record production at the smelter.

Operational GHG emissions sources

The largest single sources of our operational GHG emissions in FY23 are depicted below.

Consumption of coal-generated electricity from the South African grid at Hillside Aluminium.

Combustion of energy coal and natural gas to generate steam and electricity for the alumina refining process at Worsley Alumina.

Fugitive emissions at IMC, due to the release of gases from underground coal seams during mining.

51% — 10.4 Mt CO_2-e

16.2% — 3.4 Mt CO_2-e

10% — 2.1 Mt CO_2-e

The remaining GHG emissions (4.5 Mt CO_2-e) are attributable to a range of activities, including consumption of carbon anodes at Hillside Aluminium and Mozal Aluminium, and electricity or fuel consumption at our other operations.

A breakdown of our FY23 GHG emissions by source and operation is available in our 2023 Sustainability Databook at *www.south32.net*.

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(15) FY21 GHG emissions adjusted to exclude GHG emissions from SAEC and TEMCO, which were divested in FY21.
(16) The sum of the categories may vary to the total figure due to rounding.
(17) The GHG grid emission factor is the total amount of GHGs emitted per unit of electricity generated for and distributed by an electricity grid.

Reducing our operational GHG emissions

Over 90 per cent of our operational GHG emissions are generated by four operations – Hillside Aluminium, Mozal Aluminium, Worsley Alumina and IMC. Our decarbonisation initiatives are primarily focused on these operations to support a significant reduction in our operational GHG emissions and deliver our medium-term target.

Our operational decarbonisation pathway to support delivery of our medium-term target and long-term goal consists of three elements: efficiency initiatives in the near term, transition to low-carbon energy in the medium-term, and technology solutions in the longer- term.

Operational decarbonisation pathway

Operation	Near-term	Medium-term 50% by 2035[1]	Long-term Net zero by 2050[2]
Hillside Aluminium	> AP3XLE implementation	> Transition to low-carbon energy > EnPot Technology	> Processing technologies (e.g. inert anodes)
Mozal Aluminium	> Extension of current hydropower contract beyond FY26		> Processing technologies (e.g. inert anodes)
Worsley Alumina	> Coal to Gas Conversion > Reducing steam demand (e.g. mud-washing; dilution reduction) > Use of industrial heat (e.g. waste heat to digestion)	> Coal to Gas Conversion > Steam electrification and renewables > Use of industrial heat (e.g. mechanical vapour recompression)	> Gas to Renewables or Hydrogen > Processing Technologies
Illawarra Metallurgical Coal	> Improved gas drainage > Flaring infrastructure at Dendrobium mine	> Commercial solution for ventilation air methane	

Efficiency projects | Low-carbon energy | Technology

(1) Our target to halve operational GHG emissions from our FY21 baseline by 2035.
(2) Note that while our net zero GHG emissions by 2050 goal includes Scopes 1, 2 and 3, this graphic only relates to operational GHG emissions (i.e. Scope 1 and 2).

Aluminium smelters

Aluminium smelting consumes large amounts of electricity, while also producing carbon dioxide as a by-product of the manufacturing and consumption of carbon anodes. The other material source of GHG emissions in aluminium production arises from the electrolytic reduction of alumina.

Hillside Aluminium

The Hillside Aluminium smelter is located in Richards Bay in the South African province of KwaZulu-Natal and is 100 per cent owned and operated by South32. Hillside Aluminium directly or indirectly employs an estimated 31,000 people and, as the only primary aluminium smelter in South Africa, plays a central role in the domestic aluminium value chain.

Hillside Aluminium is the largest single consumer of power in South Africa, with a baseload demand of 1,205 megavolt amperes at over 99 per cent load factor. Electricity is sourced from Eskom, the state-owned entity which owns and operates South Africa's national grid,

under a power agreement that expires in 2031. As South Africa's grid is reliant on energy coal, Hillside Aluminium's electricity supply is highly carbon intensive.

Sourcing low-carbon electricity

In FY23, we progressed a prefeasibility study of pathways to decarbonise the electricity supply for Hillside Aluminium. Studies to date have informed our preferred approach of purchasing renewable energy within South Africa.

The smelter's consistent, high level of power consumption would require multiple gigawatts of renewable energy generation capacity. As noted in our CCAP, given the scale of energy requirements at Hillside Aluminium, we are exploring options to enter into a long-term renewable energy power purchase agreement(s) with entities that have the necessary specialist expertise in utility-scale energy projects, rather than on-balance-sheet development of renewables, firming and associated infrastructure.

Our studies to date have confirmed the challenges associated with developing large-scale renewable and low-carbon energy sources in South Africa. Businesses looking to secure affordable power purchase agreements for low-carbon energy are facing strong competition. For Hillside Aluminium, the high market competition and associated cost is compounded by the fact that renewable and low-carbon energy is not currently available in the volumes required, and limitations imposed by existing grid constraints.

Our work in FY23 has made it clear that a conventional, market-based approach is unlikely to deliver secure and affordable renewable electricity at the scale we are seeking in the near-term. A long-term renewable energy solution at the required scale for Hillside Aluminium is likely to be dependent on market liberalisation within South Africa, supported by appropriately structured finance and investment.

We are currently studying the potential to use renewable energy for a proportion of the power supply for Hillside Aluminium with a view to expanding it as more sources become available over time. Our research has provided directional insights into what the market can currently offer, and in FY24 we plan to further test the market through a request for information process.

We will also continue to investigate the potential role of international finance, economic organisations, electricity market participants, and governments to develop a longer-term solution.

South Africa's Just Energy Transition Investment Plan

At the 26th Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC) in October/November 2021, the governments of South Africa, France, Germany, the United Kingdom and the United States, along with the EU, issued a Political Declaration announcing a new ambitious, long-term Just Energy Transition Partnership (JETP).

The JETP aims to accelerate the decarbonisation of South Africa's economy to help it achieve the goals set out in South Africa's updated Nationally Determined Contribution emissions goals.

South Africa's Just Energy Transition Investment Plan (Plan) gives effect to the partnership forged at COP26 and was endorsed by the International Partners Group (IPG) of France, Germany, the UK, the US and the EU in November 2022. The Plan identifies US$98 billion in financial requirements over five years to begin South Africa's 20 year energy transition, with investment required from both public and private sectors.

The IPG is mobilising an initial US$8.5 billion to catalyse the first phase of the program, which includes investments to facilitate accelerated deployment of renewable energy and investments in new sectors of the green economy.

Purchase of lower-carbon energy attributes

We are studying options to acquire energy attributes, for use in the near-term to maintain Hillside Aluminium's market competitiveness by reducing the GHG intensity of its product.

Aluminium produced by the smelter, as well as the aluminium products produced by its domestic customers, is exported into the EU where market mechanisms and regulation are evolving to prefer low-carbon aluminium. This evolution means we need to manage the risk of losing access to customers or markets in the near-term while we are pursuing low-carbon energy solutions.

We are studying options to acquire energy attributes, which are generated from renewable or low-carbon power sources and can be sold separately (or unbundled) from the underlying electricity and transferred to another party.

We have signed a non-binding Memorandum of Understanding with Eskom to explore the potential to enter into a pilot agreement to purchase energy attributes associated with the electricity generated at Eskom's Koeberg Nuclear Power Station. Since the attributes represent a new product for Eskom, the pilot would test the commercial and regulatory requirements and other applicable considerations, while we continue to investigate other low-carbon energy solutions for the medium- to long-term.

While our consideration of nuclear energy attributes is at an early stage, this solution has the potential to maintain access to markets as we transition away from carbon intensive energy, helping to secure a fair and just transition for the smelter's workforce, communities and the broader South African economy.

Our GHG reporting and use of energy attributes is aligned with the World Resources Institute Greenhouse Gas Protocol (WRI GHG Protocol). Should we enter into a pilot agreement with Eskom, we would use the energy attributes to reduce the GHG emissions intensity of our product while the pilot is underway. We would not utilise the energy attributes to reduce our reported GHG emissions at an operation or Group level prior to the conclusion and assessment of the pilot, and revision of the WRI GHG Protocol Scope 2 guidance which is expected to conclude in 2025.

Energy and process efficiency

Near-term decarbonisation initiatives at Hillside Aluminium are focused on reducing energy consumption with the use of energy efficiency technology. For example, in FY22 we completed a trial of AP3XLE energy efficiency technology and committed approximately US$18 million to deploy the technology through to FY28. At the end of FY23, 18 per cent of Hillside Aluminium's pots had been converted to AP3XLE energy efficiency technology which realises energy efficiency immediately following installation. Once fully deployed, this technology is expected to abate approximately 150,000 to 200,000 tonnes of CO_2-e per annum, which equates to 1.2 to 1.7 per cent of Hillside Aluminum's operational GHG emissions.

We continue to investigate the potential of EnPot technology for Hillside Aluminium. This technology enables aluminium smelters to modulate their energy consumption, making them more compatible with the variable electricity supply provided by renewable power generation. The technology has the potential to enhance the use of the smelter as a 'virtual battery' and play an increasing role in grid stability ancillary services by lowering its energy demand and returning surplus power to the grid. We have now completed four out of five EnPot experimental trials, which are aiming to establish the operating limits of the technology and the potential level of contribution to the national grid.

We also continue to investigate and assess additional GHG emissions reduction projects and technologies, such as inert anodes and anode coating technology.

Mozal Aluminium

Mozal Aluminium is co-owned by South32, the Industrial Development Corporation of South Africa and the Government of the Republic of Mozambique.

Electricity supplied to Mozal Aluminium is generated by Hidroeléctrica de Cahora Bassa, a hydro-electric power generator, and supplied via Eskom's South African grid. Eskom also provides back-up energy to Mozal Aluminium for periods when Hidroeléctrica de Cahora Bassa produces less than its contractual minimum supply of hydro-electric power.

As Mozal Aluminium is a major employer in Mozambique, we seek to secure an affordable, long-term low-carbon energy source for its ongoing viability. We have formed a working group with key stakeholders including Eskom, Hidroeléctrica de Cahora Bassa and the Government of the Republic of Mozambique.

We are engaging with the working group to extend the supply of power from Hidroeléctrica de Cahora Bassa to Mozal Aluminium beyond 2026, as there are no viable alternative suppliers of renewable energy at the necessary scale. Importantly, an extension of the existing renewable power arrangement would underwrite Mozal Aluminium's ability to maintain its current market position as a global supplier of low-carbon aluminium.

Like Hillside Aluminium, we continue to investigate and assess additional GHG emissions reduction projects and technologies, such as inert anodes and anode coating technology that can be implemented at Mozal Aluminium to reduce electricity demand and increase efficiency.

Worsley Alumina

Worsley Alumina is an integrated bauxite mine and alumina refinery located in the south-west of Western Australia. The primary source of GHG emissions at Worsley Alumina is from the combustion of energy coal and natural gas to generate high-pressure steam, accounting for approximately 74 per cent of GHG emissions. This also generates electricity, which is mostly consumed by the refinery and mine. Scope 2 GHG emissions comprise around two per cent of reported GHG emissions from the refinery. On average, GHG emissions from bauxite mining comprise around three per cent of Worsley Alumina's annual reported operational GHG emissions.

As stated in our CCAP, Worsley Alumina's near-term decarbonisation efforts have been focused on energy efficiency at the refinery. While this focus remains, in May 2023, we started converting the first of our coal-fired boilers to natural gas and we are planning the conversion of our second boiler in 2024. Combined, these conversions are expected to reduce Worsley Alumina's operational GHG emissions by approximately 410,000 tonnes of CO_2-e per year, or just over 10 per cent. In addition to delivering immediate reductions in operational GHG emissions, the conversion of coal-fired boilers to natural gas mitigates the impact of local coal supply challenges, which in FY23 resulted in the need for imports to supplement our supply and enable ongoing operation of the refinery.

The use of natural gas remains an interim step, as we pursue longer-term energy transition solutions focused on electrification and renewable energy. In FY23, we completed a concept study to evaluate alternative options for steam generation. The study reinforced our view that the end state for the refinery is likely to be a highly or fully electrified operation, and that conversion to gas boilers remains a necessary interim step.

Full electrification of the refinery would place a new load on the South-West Interconnected System (SWIS) of around one third of current total system average demand, which the current network capacity cannot meet. Government and industry collaboration is essential for the electrification and decarbonisation of the south-west region. In FY23, we actively participated in the SWIS Demand Assessment, which identified demand growth scenarios associated with the energy transition in the south-west of Western Australia. The Demand

Assessment is a key input into the upcoming revision to the Whole of System Plan, and we will continue to engage with Government on associated actions and activities. We also collaborated with alumina industry peers, contributing to the Australian Renewable Energy Agency report "A Roadmap for Decarbonising Australian Alumina Refining", published in November 2022.

We continue to assess the technical potential for behind-the-meter renewable electricity generation and options for managing balance sheet implications. However, we consider that procuring renewable energy via the grid remains the most viable option for long-term decarbonisation. In the interim, we are progressing multiple projects and studies investigating new and existing technologies to support increased electrification, as well as broader investment in shared energy infrastructure to source affordable renewable power at the necessary scale for Worsley Alumina and other industrial users in the region.

Energy and process efficiency at Worsley Alumina is primarily targeting initiatives that reduce the operational demand for steam and improve efficiency through more effective use of industrial heat. In FY22, Worsley Alumina began a product washing dilution reduction project to reduce energy demand related to evaporation in the Bayer process (which refines bauxite to produce alumina). This project is on track for completion in 2024 and has the potential to abate up to 80,000 tonnes of CO_2-e per year once fully commissioned.

In FY23, we progressed our mud washing efficiency study, which is investigating the reduction of steam required to evaporate water out of the circuit by replacing flat-bottom washers with new high-efficiency washers. Our most recent estimates suggest that the project has the potential to reduce operational GHG emissions by up to 245,000 tonnes of CO_2-e per year. At the same time, the cost estimate for the project rose considerably during the study due to inflationary pressures on equipment, materials and labour, requiring the team to revisit the delivery model to identify potential cost efficiencies and optimise the delivery of the project. A final investment decision on mud washing is now expected in 2024.

Our waste heat to digestion study commenced pre-feasibility in FY23. The study is considering two options. The first includes digestion vapour duct upgrades, which increase the duct size to reduce pressure losses and associated energy consumption, with estimated GHG abatement of up to 72,000 tonnes of CO_2-e per year. The second considers digestion liquor heater upgrades and installation of more efficient heat exchangers to improve energy recovery, with estimated GHG abatement of up to 63,000 tonnes of CO_2-e per year.

We are also continuing to study steam electrification technologies, such as mechanical vapour recompression, which is an energy recovery process used to recycle waste heat, and calciner flue gas heat recovery. Our participation in the Heavy Industry Low-Carbon Transition Cooperative Research Centre (HILT CRC) provides us access to emerging views of the use of hydrogen in difficult-to-electrify applications such as calcination.

In FY23, Worsley Alumina continued to use biomass as a fuel source in the multi-fuel co-generation facility consuming approximately 21,000 bone dry metric tonnes. The use of biomass in place of energy coal is estimated to have abated just over 31,000 tonnes of CO_2-e in FY23. We source biomass from various harvesting and chipping companies, including waste residues from saw log operations, mine site thinnings or energy crop material. However, sourcing and processing higher volumes of biomass remains a challenge, and is only expected to remain a complementary option in the near term, while we pursue the more material energy transition projects described above.

Worsley Mine Development

Worsley Alumina has continued to progress State and Commonwealth environmental approvals for the Worsley Mine Development, which would provide access to future bauxite reserves and resources.

We received over 650 responses to our Environmental Review Document (ERD) which was released in June 2022 for public comment in accordance with State and Commonwealth environmental legislation. The ERD includes a draft GHG Management Plan (among other key management programs) which provides more specific detail on Worsley Alumina's decarbonisation activities[18], and proposes the establishment of interim GHG emissions reduction targets for Worsley Alumina.

The proposed interim GHG emissions reduction targets are in line with guidance from the Western Australian Environmental Protection Authority (EPA's) previous *Environmental Factor Guideline: Greenhouse Gas Emissions, 2020* and are intended to drive incremental reductions in operational GHG emissions at Worsley Alumina, supported by regular review and evaluation. They are aligned with South32's Group-wide medium-term target and long-term goal, but they do not replicate them, noting South32's Group-wide decarbonisation strategy to meet our medium-term target and long-term goal has been developed at a whole-of-portfolio and guidance level.

In FY23, the Australian Government passed reforms to the Safeguard Mechanism and the Western Australian EPA updated its *Environmental Factor Guideline: Greenhouse Gas Emissions, 2023*. We are currently working to update our draft GHG Management Plan to take account of these regulatory updates and respond to the public submissions received.

+   **Learn more about the Worsley Mine Development at *www.south32.net*.**

(18) This Sustainable Development Report includes more up to date information and figures, for some items, than depicted in the draft GHG Management Plan submitted as part of the ERD. This is not an error, but rather represents more recent information being available for inclusion in this Report (e.g. full year reporting of FY23 GHG emissions, updated emissions abatement numbers from recently completed studies).

Illawarra Metallurgical Coal

IMC comprises two underground metallurgical coal mines, Appin and Dendrobium, located in the southern coalfields of New South Wales (NSW) in Australia. IMC's Scope 1 GHG emissions are predominantly from fugitive emissions, including methane. Our decarbonisation plans are focused on increasing the efficiency of coal seam gas drainage and utilising as much of the captured gas as possible to generate electricity, and reducing ventilation air methane (VAM) through innovative technologies.

In FY23, IMC achieved an equivalent post drainage capture efficiency (PDCE) of coal seam gas of 65.8 per cent at our Appin mine. In FY24, we aim to increase pre-drainage to reach 67 per cent equivalent PDCE by FY24, compared to 61 per cent in FY21. An increase in PDCE from 61 to 67 per cent, would reduce Appin's GHG emissions by approximately 125,000 tonnes of CO_2-e per year.

At our Dendrobium mine, we commenced installation of new gas drainage infrastructure and flaring technology which provides the ability to convert methane to carbon dioxide, reducing the potency of GHG released to the atmosphere. The Dendrobium mine has lower methane content than the Appin mine and experiences greater variability of gas quantity and composition. This means that, unlike Appin, we cannot use the captured gas at Dendrobium for power generation which requires a stable supply at higher methane concentrations. Drilling has been completed for the gas risers and service boreholes, with the civil works and fabrication of the gas plant underway. The installation and commissioning is expected to be completed in 2024, making the technology available for use when mining advances into the higher gas areas of Dendrobium.

VAM occurs at low concentrations (0.15 to 1.5 per cent), which existing gas drainage technologies are unable to capture. At Appin, a project to design, construct and test a commercial scale demonstration plant using CSIRO's VAM mitigator (VAMMIT) commenced in FY22. VAMMIT is a compact thermal flow reversal reactor with a regenerative bed, which oxidises methane to produce water and carbon dioxide. In FY23, the project moved to feasibility phase, where detailed design and execution planning is being undertaken to enable the units to be safely deployed at an underground mine. The project is co-funded by South32, the

NSW Government and Coal Innovation NSW. If successful, the units aim to reduce GHG emissions by an estimated 30,000 CO_2-e per unit per year, based on an average VAM concentration of 0.33 per cent. Once completed, the demonstration facility will remain on site for continuous operation to achieve further GHG emissions reduction.

South32's strategic approach to innovation includes our Low Footprint innovation mission to reduce our impact on the environment. As part of this mission we are currently exploring a study on alternative VAM oxidisation solutions for IMC, as well as running an open innovation challenge called CH4 No More. The challenge focuses on the abatement of low concentration VAM from underground mines. CH4 No More was set up in partnership with the consulting firm Unearthed to source solutions from innovators globally which aims to identify new opportunities and potential partnerships.

In FY23, IMC commenced a number of initiatives related to fleet electrification and EVs. These include a trial of purpose-built, underground EV personnel transporters (with associated workforce health benefits of reduced underground diesel particulate matter), investigation of EV options to replace diesel pool vehicles, scoping for EV charging stations across IMC sites and consideration of rooftop solar installations on existing buildings and infrastructure.

> Our current methodology for the calculation of GHG emissions and reporting at IMC is consistent with approved guidelines from the Clean Energy Regulator for Continuous Emissions Monitoring. We are investigating the potential to convert from the current methodology to Periodic Emissions Monitoring (PEM) and whether such shift in methodology would result in more accurate and consistent monitoring. If required, we will update any material changes to our reported GHG emissions at IMC accordingly.

Australian Safeguard Mechanism

Reforms to the Australian Safeguard Mechanism, which came into effect on 1 July 2023, reflect a shift in the regulation of GHG emissions in Australia. The reforms aim to ensure that large industrial emitters contribute to Australia's recently legislated national GHG emissions reduction target of 43 per cent by 2030 from 2005 levels. All of our Australian operations are subject to the Safeguard Mechanism, which applies to facilities that emit more than 100,000 t CO_2-e per year.

In FY23, South32 participated in consultations by the Australian Government expressing our support for reform, and of industry playing its part to reduce Australia's GHG emissions and support global decarbonisation efforts.

The declining baselines being implemented under the reformed Safeguard Mechanism will impact each of our Australian operations, and we will continue to monitor and assess the level of impact as further supplementary regulation is released. However, the flexible compliance arrangements available under the reforms (such as Safeguard Mechanism credits, banking and borrowing arrangements and extended multi-year monitoring periods) will allow us to optimise and manage the inherent annual variability in GHG emissions performance across our facilities. This optionality, together with our decarbonisation planning, means that we are well positioned to meet our obligations under the reformed Safeguard Mechanism and contribute to Australia's national GHG emissions reduction target.

Just transition

Just transition is the fair, equitable and inclusive social transition towards a low-carbon global economy. We understand that our decarbonisation initiatives are likely to impact some of the communities and regions where we operate and that a well-planned and just transition can create new and long-term opportunities. We are committed to supporting a fair and equitable transition for our people, communities and other stakeholders, that is aligned with the objectives of the Paris Agreement.

In FY22, we developed guiding principles to inform our decarbonisation planning and decision making. These principles are aligned with the objectives of the Paris Agreement and were developed following a review of technical papers, guidelines and peer practices, including the International Labour Organisation's 2015 guidelines for a just transition towards environmentally sustainable economies and societies for all.

> **+ Learn more about our just transition guiding principles in our CCAP at _south32.net_.**

In FY23, we began to integrate these principles into our business processes and standards, to facilitate consideration of just transition principles at an early stage in our planning and decision-making. For example, incorporating our just transition guiding principles into our internal social performance, and environment and climate change standards allows us to consider just transition matters alongside related social and environmental considerations.

Engaging with communities affected by our climate change approach is integral to our commitment to support a fair and equitable transition.

> **+ Learn more about how we partner with communities on pages 35 to 40 and about Our Approach to Human Rights; and Indigenous, Traditional and Tribal Peoples Engagement at _www.south32.net_.**

Our current just transition planning remains focused on Hillside Aluminium and Worsley Alumina. We are working with governments, communities, and other stakeholders to determine the best ways we can complement and support the collective effort to ensure a fair and just transition towards a low-carbon future.

Just transition (Hillside Aluminium)

We are working to secure an affordable source of low-carbon electricity at Hillside Aluminium in an effort to secure its long-term viability. Without low-carbon energy supply, the smelter risks becoming internationally uncompetitive over time given the emergence of carbon border tariffs and the likelihood of lower realised pricing as demand for low-carbon aluminium grows.

A reduction in output from Hillside Aluminium, or its closure, could have a major impact on the surrounding community in Richards Bay and the downstream aluminium industry in South Africa. Early and comprehensive planning is necessary so that any transition is well planned, mitigates impacts on people and communities and creates new opportunities where possible. Collaboration with a range of stakeholders is critical to plan a just transition for the tens of thousands of South Africans who are economically benefitted by Hillside Aluminium.

In FY23, we undertook a high-level value chain analysis and commenced activities to embed just transition principles into Hillside Aluminium's social performance and community investment programs.

Hillside Aluminium is already undertaking a number of initiatives and activities that directly align to our just transition guiding principles. For example, we have made significant contributions to the local and regional economy through their skills development, Enterprise and Supplier Development, and socio-economic development initiatives. However, we have an opportunity to enhance and extend these programs, together with other stakeholders, to support the principles of a just transition.

Similarly, Hillside Aluminium collaborates with other stakeholders through a number of platforms such as the Energy Intensive Users Group of South Africa, the Zululand Chamber of Commerce and Industry, the Richards Bay Clean Air Association and community forums. As part of the transition process, there is opportunity to leverage these collaborations to enhance positive impact on the communities and involve relevant stakeholders in decision making.

A risk and opportunity assessment focused on only just transition was planned for FY23, but has been deferred to enable its integration within the scope of our next social impact and opportunity assessment.

Hillside Aluminium value chain analysis

A high-level value chain analysis and assessment of the economic and socio-economic footprint of Hillside Aluminium was undertaken in FY23 to understand the impacts of a number of transition scenarios. We analysed the activities involved in the smelter's value chain and applied a social accounting matrix to model and assess the direct and economy-wide contribution which helps us to identify areas of focus for future planning.

The assessment confirmed the important role that Hillside Aluminium plays in South Africa, directly and indirectly supporting over 31,000 jobs and directly contributing ZAR9.9 billion to South Africa's GDP. The analysis identified four primary sectors in the value chain and determined those that may experience the biggest impact from changes to the smelter with regard to GDP contribution and employment:

– The downstream aluminium manufacturing sector of the value chain is likely to experience the largest impact from the energy transition;

– The transport sector has higher GDP and employment multipliers. Therefore, a negative impact to Hillside Aluminium's operations, such as a change in quantity or price of the end product, could in turn lead to a relatively high degree of impact on downstream employment in this sector; and

– The trade sector, which sells aluminium products to the end user, has the highest multiplier effect. This is mainly due to the sector's dependence on Hillside Aluminium as the primary supplier of most of South Africa's aluminium requirements (with approximately 30 per cent of Hillside Aluminium's total aluminium production being sold locally).

The higher multipliers for the transport and trade sectors (an estimated four jobs created for every ZAR1 million spent on transport and five in the trade sector) highlights that these downstream sectors need attention. The analysis also considered the South African mining sector, but found it will likely experience minimal impact in terms of local GDP and employment as the smelter imports more than 90 per cent of its raw materials.

Just transition (Worsley Alumina)

Just transition planning for the south-west town of Collie and surrounds was an area of focus for stakeholders in FY23, where the transition away from the use of energy coal by government and industry creates both impact and opportunity for local communities and the broader region. The Australian Government announced additional initiatives, such as the Powering the Regions Fund, to support businesses and regional communities as Australia transforms to a low-carbon economy. The government also established a new Net Zero Authority (NZA) in May 2023 within the Department of the Prime Minister and Cabinet to:

– Assist workers in GHG emissions-intensive sectors to access new employment, skills and support;

– Coordinate programs and policies across government to support regions and communities to develop, support and invest in new clean energy industries; and

– Help investors and companies embrace net zero transformation opportunities.

In 2022, we met with the Net Zero Economy Taskforce, a precursor to the NZA, to share our understanding of the challenges and opportunities for Collie and surrounding communities. We provided insight into Worsley Alumina's decarbonisation program and discussed potential partnership opportunities to develop new regional employment and business opportunities supported by Worsley Alumina.

The NZA will focus on regions and industries that have traditionally powered Australia's economy, such as Collie. Worsley Alumina and other coal users will transition to alternative fuel sources, including the WA Government who in 2022 announced their intention to retire the state-owned Muja and Collie coal-fired power stations.

Our decision to include just transition activities within the scope of Worsley Alumina's social investment program supported our ongoing commitment to the Shire of Collie's Tourism Strategy, first announced in FY22. In FY23, we were proud to support the South32 Hello Summer Concert to showcase Collie as an attractive and liveable regional centre for families and professionals who will be required in the area to support the transition.

We continued to participate in the Collie Just Transition Working Group (JTWG) led by the Western Australia Government Department of the Premier and Cabinet, with recent discussion including Worsley Alumina's decarbonisation planning, opportunities from future major projects, just transition planning and potential for job sharing and training opportunities between JTWG partners.

In FY23, we studied the potential workforce impacts and opportunities from our decarbonisation planning at the Worsley Alumina refinery, taking into account internal and external drivers of workforce supply and demand in the region. The report identified that, in the long-term, there is potential for a shortfall in required skills, with a likely increase in new high-speed, high-voltage equipment and electrification skills driving high demand for 'electric' workers. As the transition to electrification progresses, we anticipate increased competition for the roles required to support the energy transition for Worsley Alumina and the broader region. The study also confirmed that there is a need to maintain and mature training pathways for our workforce that aligns with Worsley Alumina's decarbonisation plans.

Solar Training Academy

South32 has partnered with Solana Energy to bring solar energy to one of South Africa's most important commercial hubs to build operational resilience. An important part of the project is the establishment of a Solar Training Academy to upskill young electricians in the field of solar PV technology.

In FY23, the partnership has delivered the following important milestones:

– Completed the construction of a purpose-built solar training academy located at the South32 Enterprise and Supplier Development Centre in Richards Bay;

– Provided training to a total of 69 unemployed young people and seven small Black-owned electrical businesses providing them with the essential skills to be accredited as solar installers;

– Created a total of 56 new full time jobs and created work opportunities for an additional 40 independent young people via the Solana Accredited Installer program;

– Identified the first five commercial and industrial rooftop solar projects, which are at various stages of implementation and will deliver just under half of a planned 2MW of rooftop solar to businesses in the King Cetshwayo district;

– Installed rooftop solar for six community organisations funded by South32, including the National Sea Rescue Institute and South Africa National Council on Alcohol and Drug Dependence; and

– Commenced 26 residential solar installations as part of a program to achieve 500 installations in the district by the end of the 2023 calendar year.

Technology and innovation

Technology and innovation are crucial to the low-carbon transition and we actively collaborate with other companies, industry groups and research organisations to complement our innovation and technology programs. Our Innovate32 program aims to create value through innovation, with the Next Generation Mine mission to reshape the way we operate and the Low Footprint mission to reduce our impact on the environment. Many of these options are being investigated through the following collaborative initiatives, and our work in these areas is expected to influence our business, strategy and financial planning in future.

Electric Mine Consortium

The Electric Mine Consortium aims to accelerate progress towards a fully electrified, zero carbon, zero particulates mine. In FY23, six working groups focused on key mine electrification challenges, including energy supply and storage, mine design and electrical infrastructure, equipment and data, energy and processing, policy and skills, and carbon.

We are leading the electrical infrastructure workstream and contributing by trialling three light EVs at our Cannington operation and are also awaiting delivery of a battery electric integrated tool carrier. The installation of charging infrastructure was completed in FY23, and testing of multiple systems for the new light vehicles will be ongoing through the trial period. Both trials are planned to run for at least 12 months and aim to prove the use case of EVs for underground mining, which include safety, reliability, range and capability requirements. These findings may also have relevance for our Hermosa project which has a similar operating context to Cannington.

We also led the energy supply and storage workstream and scanned the market for long duration energy storage through an expression of interest, which received submissions from over 20 vendors, targeting seven members' use cases. The knowledge gained informed a pre-concept study of thermal energy storage at Worsley Alumina and a related steam electrification study. For more information, visit *www.electricmine.com*.

BluVein

BluVein is a dynamic energy transfer technology that aims to address some of the limitations of traditional heavy fleet batteries. The limitations include size, weight and cost, the requirement for in-shift recharging/battery swapping, and life cycle and disposal challenges. The BluVein1 system allows concurrent dynamic powering and charging of EVs suited to the small-scale underground truck configurations, providing an alternative to static charging or fast charging technology. Early indications are that the technology may fit with a current mine design profile and is highly suited to long-term capital development areas such as primary material movement pathways. For more information, visit *www.bluvein.com*.

HILT CRC

The Heavy Industry Low-Carbon Transition Cooperative Research Centre (HILT CRC) is a collaborative venture between industry, government and research organisations to develop, de-risk and accelerate technologies for heavy industry to transition to net zero.

In FY23, we participated in a number of HILT CRC projects, covering topics such as decarbonising alumina calcination, the use of mechanical vapour recompression and storage technologies for Bayer process steam generation, green heat for industries and regulatory implications, and emissions profiling. These projects are informing our studies for the potential use of thermal energy storage technologies and the design of the next generation of alumina calciners for our Worsley Alumina refinery. For more information, visit *www.hiltcrc.com.au*.

Long Duration Energy Storage Council

The Long Duration Energy Storage Council (LDESC) is an international council focused on accelerating the deployment of long duration energy storage technologies. Our participation on the LDESC provides access to fact-based guidance, research, technology providers and other users that can support us in accelerating and de-risking the transition of our operations.

In FY23, this included the LDESC Net Zero Heat report and access to technology providers who assisted with a pre-concept study of thermal energy storage at Worsley Alumina and a related steam electrification study. For more information, visit *www.ldescouncil.com*.

Unearthed

As part of the Low Footprint mission of our Innovate32 program, we have partnered with Unearthed, a startup business that runs global innovation challenges to source ideas and solutions for difficult-to-solve problems. We ran two challenges in FY23 – CH4 No More which aims to reduce emissions from VAM at Illawarra Metallurgical Coal and VentSafe which is focused on improving safety for our ventilation systems at IMC. Additional future challenges have been identified across our Low Footprint mission, which we aim to progress in FY24 and beyond.

Carbon offsets and carbon credits

Our decarbonisation plans prioritise avoidance and mitigation over the use of carbon offsets, in accordance with our mitigation hierarchy. However, carbon offsets are likely to be required for residual emissions, which may include 'hard to abate' emissions arising from chemical processes and fugitive emissions, to deliver our long-term goal of net zero operational GHG emissions by 2050.

We may also use carbon credits in the near term in accordance with Australian and South African GHG regulatory schemes, which from FY24, may include Safeguard Mechanism Credits in accordance with the recent reforms to the Australian Safeguard Mechanism.

In FY23, we surrendered 26 Australian Carbon Credit Units (ACCUs) against our FY21 Safeguard Mechanism liability at GEMCO due to a minor correction in reported emissions. The total ACCUs surrendered against GEMCO's FY21 liability were 2,264 which, other than the additional 26 ACCUs referred to above, were surrendered in FY22.

Further details on the type, scheme and vintage of carbon credits retired by South32 in FY23, can be found in our Sustainability Databook.

Our dedicated carbon markets team was established in FY22 and monitors domestic policy and price changes to support our carbon offsets and credit strategy, and comply with our regulatory obligations. We prefer carbon offsets and credits that are sourced from jurisdictions in which we operate, linked to our other sustainability objectives (e.g. just transition, social performance, biodiversity) to maximise value.

In FY23, we further developed our internal carbon credits governance processes, defined our sourcing strategy and established quality criteria for the purchase of credits from the Australian and South African carbon markets. We prioritise carbon credits that reflect long-term removal of carbon or GHG emissions avoidance. We monitor carbon schemes and plan to review our quality criteria annually.

In Australia, our carbon credits quality criteria have been informed by the recommendations of the Chubb Review, an independent review of the integrity of the ACCU scheme commissioned by the Australian Government. While the Chubb review found the ACCU scheme to be well-designed overall, it made 16 recommendations to further improve governance, integrity and ACCU quality.

SCOPE 3 GHG EMISSIONS

FY23 at a glance

› Commenced implementation of a shipping freight pricing incentive tied to carbon emissions performance of vessels

› Reviewed the decarbonisation goals and strategies of key suppliers and commenced engagement to develop potential new partnerships

› Included downstream transportation and distribution in our Scope 3 GHG reporting for the first time

FY24 focus areas

› Continue to engage with suppliers and customers on potential new partnerships to address GHG emissions in the value chain

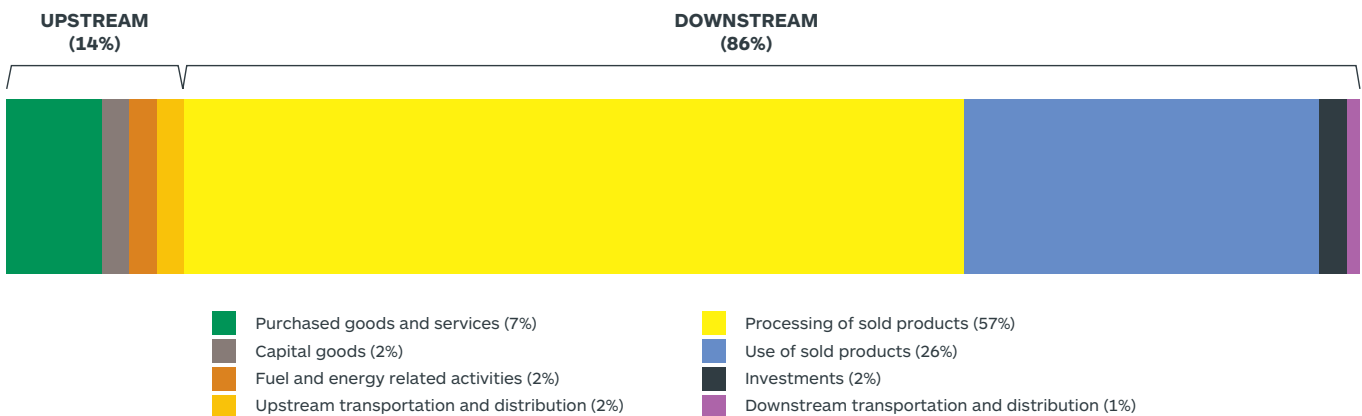› Identify and explore new GHG emissions abatement opportunities related to our shipping activity

In FY23, we set a new goal of net zero Scope 3 GHG emissions by 2050 that includes all categories of Scope 3 GHG emissions relevant to our business. This goal recognises that we have a critical role to play in contributing to the decarbonisation of the value chain and reflects our commitment to collaborating with our suppliers, customers, joint venture partners, industry peers and other value chain partners to make a meaningful contribution to the actions and innovations required to address Scope 3 GHG emissions.

Scope 3 GHG emissions include those associated with upstream activities, such as embodied emissions in goods and services we use, and downstream activities, such as the processing and end-use of our products by our customers.

In FY23, almost 90 per cent of reported value chain GHG emissions were attributable to the downstream use and processing of our products, in particular the processing of alumina to manufacture aluminium ingots and use of metallurgical coal to make steel.

**FY23 Scope 3 GHG emissions by position in the value chain[19]**

UPSTREAM (14%)   DOWNSTREAM (86%)

- Purchased goods and services (7%)
- Capital goods (2%)
- Fuel and energy related activities (2%)
- Upstream transportation and distribution (2%)
- Processing of sold products (57%)
- Use of sold products (26%)
- Investments (2%)
- Downstream transportation and distribution (1%)

In FY23, we reported Scope 3 GHG emissions of 65.6 Mt CO_2-e, three per cent lower than the FY22 reported emissions of 67.4 Mt CO_2-e. This reduction is primarily due to increased aluminium production at our smelters resulting in a 14 per cent decrease in external alumina sales, which in turn reduces Scope 3 GHG emissions from processing of sold product (Category 10 Scope 3 emissions), as more alumina was processed by our smelters rather than sold to third party smelters. Reduced sales volumes of manganese and metallurgical coal also reduced Scope 3 GHG emissions from processing of sold product and use of sold product (Category 11 Scope 3 emissions), which combined with changes to our aluminium value chain referenced above, accounted for a reduction in Scope 3 GHG emissions of 4.5 Mt CO_2-e in this category in FY23. Scope 3 GHG emissions associated with purchased good and services (Category 1 Scope 3 emissions) and capital goods (Category 2 Scope 3 emissions) increased by 1.6 Mt CO_2-e in FY23, attributable to increased spend.

In FY23, we have for the first time included Scope 3 GHG emissions from downstream transportation and distribution (Category 9 Scope 3 emissions) in our Scope 3 GHG emissions reporting. While we already reported upstream transport and distribution (Category 4 Scope 3 emissions), we have previously been unable to report against downstream transportation and distribution due to the lack of availability of accurate vessel destination data. However, our interactive web-based dashboard created in FY22 in partnership with ZeroLab (see page 113 for more information) allows us to start reporting under this category. This has increased reported Scope 3 GHG emissions in FY23 by 0.9 Mt CO_2-e.

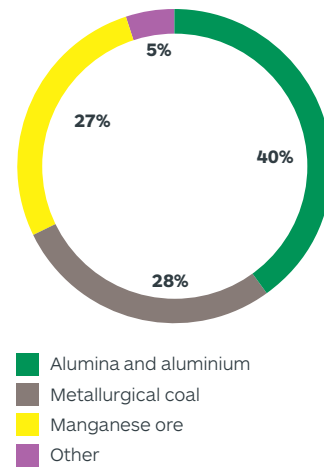(19) The sum of the categories may vary to the total figure due to rounding.

Scope 3 GHG emissions
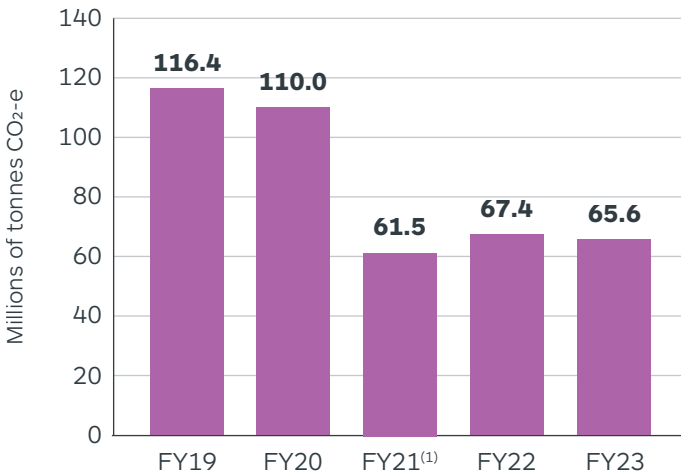
(1) FY21 GHG emissions adjusted to exclude GHG emissions from SAEC and TEMCO, which were divested in FY21.

FY23 Scope 3 GHG emissions by commodity

- Alumina and aluminium
- Metallurgical coal
- Manganese ore
- Other

Notes: Estimate of Scope 3 GHG emissions by commodity are based on processing and use of sold products, and apportionment of other categories.

+ A description of Scope 3 GHG emission categories and methodologies is available in our 2023 Sustainability Databook at _www.south32.net_.

Scope 3 GHG emissions reduction

In our CCAP, we highlighted five areas of focus for our Scope 3 approach through to FY25, which are:

- Collaborating with our customers on reducing GHG emissions;
- Collaborating with our suppliers on reducing GHG emissions;
- Improving accounting of GHG emissions associated with processing and use of our products;
- Participating in relevant stewardship and innovation initiatives; and
- Maturing our monitoring program for shipping emissions to inform future GHG emissions reduction opportunities.

Consistent with these focus areas, in FY23 we completed a review of our suppliers to assess the potential to collaborate on Scope 3 partnerships, based on supplier decarbonisation goals, strategies and investment that align with our goals. This work has identified key suppliers that we have commenced engagement with on possible GHG emissions reduction opportunities that will continue in FY24.

Our aim is to create new partnerships such as our existing partnership with Klaveness Combination Carriers (KCC) (see next page for more information) to reduce GHG emissions in the value chain. We also intend to broaden this work to our customers.

In FY22, we started to work with Zerolab, a subsidiary of Klaveness, which specialises in the development of new products and business models for decarbonisation, to create an interactive web-based dashboard to monitor GHG emissions from our shipping activities. In FY23, we began monitoring voyages and have established a database of actual emissions data from over 80 per cent of our shipments, including both upstream and downstream of our operations.

From 1 January 2024, the EU's Emissions Trading Scheme will cover carbon emissions from shipping, impacting transport costs for our commodities and raw materials shipped to and from the EU. Our emissions dashboard and data allows us to understand the impact on costs and identify opportunities to increase efficiencies to ship our products and raw materials economically and

responsibly. Our partnership with KCC and implementation of a carbon performance price mechanism is one such example.

Understanding the quantum of GHG emissions in the value chain helps us to assess potential climate change transition risks outside of our operations and develop an informed approach to value chain decarbonisation. We recognise that our customers want to understand the GHG emissions associated with our products as they seek to manage their own value chain decarbonisation plans. We continue to work on chain of custody requirements through product stewardship initiatives. In FY23 we completed a lifecycle assessment of Worsley Alumina to support its potential application for certification under the Aluminium Stewardship Initiative (ASI).

+ Learn more about certification and stewardship initiatives in Responsible Value Chain on pages 57 to 61.

Shipping emissions

Maritime freight is an integral part of our supply chain, and we are working to reduce GHG emissions from the shipping of our products.

As part of our contract of affreightment signed with KCC in FY22 to ship caustic soda, we have jointly developed a mechanism to link freight paid to the carbon emission performance of KCC's vessels relative to an agreed baseline. The implementation of the Carbon Adjustment Factor (CAF), which commenced on 1 January 2023, results in KCC being paid a higher freight rate if GHG freight emissions are below the baseline or lower rate if emissions exceed the baseline. Any additional freight paid by South32 as a result of the CAF will be invested towards improving the energy efficiency of KCC's fleet.

Klaveness Combination Carriers chief executive Engebret Dahm said, *"The shipping industry needs a price on carbon emissions to incentivise efficiency improvements and to start the transition to new fuels. In the absence of effective regulations, we are grateful for the support and partnership with front-runners South32 in developing and introducing the first carbon pricing mechanism in the dry bulk and tanker industries."*

EU Carbon Border Adjustment Mechanism (CBAM)

The EU's CBAM is intended to address the risk of 'carbon leakage', which occurs when companies based in the EU move carbon-intensive production abroad to countries with less stringent climate policies, or when EU products get replaced by more carbon-intensive imports. The CBAM will initially apply to imports of goods whose production is carbon intensive and at most significant risk of carbon leakage. For South32's operated assets, this includes aluminium which we export to the EU from our Hillside Aluminium and Mozal Aluminium smelters, and ferro nickel as a pre-cursor material for steel from Cerro Matoso. Our other steel making commodities (manganese and metallurgical coal) are not currently identified within the draft legislation.

The CBAM will be implemented in stages, with a transitional reporting phase commencing from 1 October 2023. During this transitional phase importers will be required to declare the embedded GHG emissions associated with the manufacture of the imported products, including both direct (Scope 1) and indirect (Scope 2) GHG emissions. From 1 January 2026, importers will need to purchase an equivalent number of CBAM certificates and surrender these against the embedded GHG emissions declared each year. If importers can prove that a carbon price has already been paid during the production of the imported goods based on verified information from third country producers, the corresponding amount can be deducted from their emissions liability. South32 has been reviewing and updating our existing reporting processes for our relevant products to facilitate compliance with the new reporting requirements.

If successful, our work to secure an affordable, low-carbon electricity source at Hillside Aluminium, and maintain our existing hydro-electric power supply arrangements at Mozal Aluminium and Cerro Matoso, will help mitigate the potential increase in the cost of exporting primary aluminium and ferro nickel to the EU from 2026. This will also have flow-on benefits for aluminium-based products and materials produced locally in South Africa and Mozambique, that are subsequently exported to the EU.

In July 2023, South32 submitted a response to the EU Commission's consultation on draft rules published in June 2023. Our response highlighted some areas that we consider require refinement or clarification prior to the commencement of the transitional period to improve alignment of the draft rules with other international GHG emissions reporting guidance.

We will continue to monitor the implementation of the CBAM and development of associated rules and regulations, to understand the current and future impacts on our business.

PHYSICAL CLIMATE RISKS

FY23 at a glance

› Commenced incorporating the outcomes of our FY22 physical impacts of climate change assessment into our material risk reviews, including supply chains

› Considered physical climate risks in our life of operation plans (including closure planning)

› Embedded physical climate risk into South32's broader governance framework, including risk, integrated planning and environment

FY24 focus areas

› Broadening our physical climate risk assessment methodology to surrounding communities and ecosystems

› Continuing to investigate opportunities to improve how we embed and address physical climate risk in our broader system of risk management

Physical climate risks are driven or intensified by weather, climate variability or climate change. They include acute risks, resulting from increased frequency or severity of extreme weather events (e.g., drought or flood events) and chronic risks, resulting from longer-term changes in climate patterns (e.g., sustained higher temperatures, sea level rise).

Physical climate risks have the potential to affect the integrity and performance of our equipment and infrastructure, compromise productivity, and disrupt business continuity (including our supply chain activities). There may also be broader environmental and socio-economic impacts on key stakeholders, including local communities.

We completed our first physical climate risk assessments for our operations in FY18 and FY19, and updated these in FY22. Our FY22 assessment used an updated methodology informed by our existing business frameworks and procedures, and included a mapping exercise to link identified risks to our strategic risks. We developed climate projections for 2030, 2050 and 2090 using data sourced from a range of local and international sources and identified climate hazards of concern for each of our operations based on 2050 climate projections to conduct our climate hazard assessment. For the assessment, hazards were categorised as acute or chronic risks, a timescale of when the hazard may manifest was provided, and impacts on assets, operations, supply chain logistics and safety of workers were identified. The high-level themes that emerged across our operations relate to land and terrain, physical assets and infrastructure, water and transport routes.

+ **Learn more about our physical climate risk approach, methodology and high level themes from our FY22 assessment in our CCAP at _www.south32.net_.**

In FY23, we commenced incorporating the outcomes of our FY22 physical impacts of climate change assessment into our material risk reviews, where physical impacts of climate change were identified as a potential influence on the nature, likelihood or impact of the risk event. The consideration of physical climate risks in the material risk reviews aims to more deeply consider the physical impacts of climate change alongside other threats or hazards, and determine how we can mitigate, transfer, accept or control the risk, inclusive of the physical impacts of climate change. Our internal material risk management standard requires that all material risks be reviewed at least every two years.

While we have focused our FY23 activities on our most material risks, we continue to investigate additional opportunities to improve how we address physical climate risk in our broader risk management program, for example in the development of guidance documents to support risk practitioners across the business to consider physical climate risk.

Our FY22 assessment identified the need to deepen our understanding of the potential physical impacts of climate change on our critical suppliers, key supply routes and supply chain interdependencies to better understand and improve low points of resilience in the value chain. In FY23, this occurred as part of our material risk review of our business-wide Security of Supply risk undertaken by our Commercial team. The inclusion of physical climate risk helps to develop a more robust set of causal pathways and develop and implement more effective controls and risk action plans to mitigate risks to critical inputs. Further work is planned in FY24 to focus on the identified critical inputs on an operation-by-operation basis, inclusive of physical climate risk.

We also further embedded physical climate risk into our broader governance framework in FY23, including our internal environment and climate change standard, closure procedure, planning framework, and risk management system. This integration into our broader governance framework supports future reporting on material risks, our management responses and reporting of financial impacts of climate change.

In FY23, our life of operation plans (including closure estimates) also considered physical climate risks, incorporating increases to operating costs and additional capital into our forward-looking estimates where deemed appropriate. Our ongoing analysis of reasonable alternative assumptions with respect to future climate conditions has not identified any additional indicator that the carrying value of assets cannot be recovered or that useful lives of assets will be shortened.

+ **Read about our climate change related estimates, assumptions, and judgments in note 2(c) to our FY23 financial statements in our 2023 Annual Report at _www.south32.net_.**

In FY24, we intend to broaden our existing physical climate risk assessment methodology to consider the potential vulnerabilities of surrounding communities and ecosystems to physical impacts of climate change in the areas in which we operate.

CLIMATE CHANGE GOVERNANCE

Climate change is a material strategic and governance issue that is overseen by our Board, with the support of its standing Committees.

Our Board

Our Board is responsible for our strategy and approves South32's Sustainability Policy, which includes our commitment to addressing climate change. The Board is also responsible for South32's overall climate change approach, our CCAP and policy positions therein. Our CCAP describes how our Board oversees the integration of climate change mitigation and adaptation into our strategy, together with the appropriate management of relevant risks and opportunities.

All Directors are invited to attend, and are encouraged to participate in, meetings of its standing Committees. Our Board receives reports from each of its standing Committees on climate-related issues relevant to each Committee's respective remit, which it uses as an input when discharging its reserved functions in relation to our strategy, allocation of capital, budget, corporate development decisions (including acquisitions and divestments), risk oversight and statutory disclosures.

More specifically, the Sustainability Committee oversees our approach to managing material sustainability-related risks and opportunities, including climate change. The Sustainability Committee receives regular reports from management on climate change, including progress and performance against GHG emissions forecasts, public commitments, decarbonisation initiatives and emerging policy and regulation. During FY23, receipt of these reports became a standing agenda item for each Sustainability Committee meeting.

Our Board, together with the Sustainability Committee, oversees management's implementation of our CCAP, including the development of subsequent plans and monitoring our progress in meeting our commitments. Directors receive regular updates from management on developments in climate-related issues and an annual external briefing addressing emerging climate change issues and related societal expectations and trends. Further detail about how the Board's oversight was exercised in FY23 (including the climate related remit of each of its standing committees) is provided in our 2023 Corporate Governance Statement, available at *www.south32.net*.

The composition of our Board seeks to include collective skills to address existing and emerging business and governance issues relevant to South32, including fluency in the implications of climate change. The appointment of Mr Carlos Mesquita and Ms Jane Nelson as Non-Executive Directors in May 2023, following an extensive global search, further enhanced the Board's broad range of skills and experience.

Ms Nelson brings a strong focus on sustainable development including human rights, cultural heritage and Indigenous issues and a significant understanding of climate change and biodiversity issues. The Board values her appointment which will help support the company's ongoing focus on responsibly producing commodities that are critical in a low-carbon world and seeking to generate enduring social and economic value.

Mr Mesquita brings experience in major mining projects and operations in base metals and aluminium in the Americas and Africa, and his appointment is a welcome addition to the Board's skills as we continue to advance our exploration and development options and take steps to decarbonise our portfolio.

The FY23 Board skills evaluation found that the majority of our Board members are either highly skilled or skilled in the environment and climate change competency in our Board skills matrix. Further details of the qualifications, skills and experience of our Directors are set out on pages 66 to 70 of our 2023 Annual Report and the Board skills matrix is on pages 13 to 15 of our 2023 Corporate Governance Statement, both of which are available at *www.south32.net*.

Executive and management

Our CEO, together with our Lead Team, is accountable for execution of our approach to climate change in accordance with their delegated authority and report to our Board and its Committees on climate-related issues. The Legal and External Affairs function advises relevant members of the Lead Team on climate change matters. The Lead Team may also seek additional advice from external climate change advisers on particular subjects. Implementation is supported through our internal environment and climate change standard which is approved by our Chief Technical Officer and requires

that processes are in place to enable continuous improvement relevant to our environmental and climate change performance, at both Group and operational level. Management also receive the annual external briefing addressing emerging climate change issues and related societal expectations and trends.

Executive remuneration

Our executive remuneration framework reinforces our focus on climate change through strategic measures included in our executive LTI from FY22. Ten per cent of our FY22 LTI award (granted in December 2021) is contingent on performance against a set of climate change measures and 10 per cent is contingent on performance of the transition of our portfolio towards commodities required for a low-carbon world. Our performance against these measures will be assessed by the Board at the end of the performance period and the outcome, with the Board's rationale, will be disclosed in our Remuneration report.

> **+** **Learn more in our Remuneration report on pages 78 to 103 of our 2023 Annual Report at *www.south32.net*.**

Stakeholder engagement on climate change

Our Board and management regularly engage with investors and proxy advisers for feedback, with climate change a key topic of discussion.

Board engagement generally takes place at our AGM in addition to Director-led engagements with investors and proxy advisers. Management engagement includes environmental, social, and governance focused meetings held throughout the year with investors, proxy advisers, investor representative organisations, governments and civil society groups. Our progress addressing climate change is also integrated into our routine shareholder engagement activities. Read more about our engagement with shareholders in FY23 in our 2023 Corporate Governance Statement, available at *www.south32.net*.

Since South32's inclusion in the Climate Action 100+ (CA100+) list of focus companies, we have had regular and productive engagement with our lead investor at CA100+, HESTA. We have actively participated in the CA100+ Net Zero Company Benchmark (NZCB) assessment process of South32 and the CA100+ NZCB diversified miners dialogue, which is developing a benchmarking approach for the diversified mining sector.

+ **Learn more about our response to the CA100+ NZCB in our 2023 Sustainability Databook at *www.south32.net*.**

Advocacy and our climate change positions

Our advocacy on climate change is underpinned by our positions on key climate change matters. These positions inform our decision making, support our external engagement with stakeholders and guide our contributions to public policy development, either directly or indirectly, through our industry associations.

We are committed to conducting our direct advocacy in line with our climate change positions, which are listed below and reviewed as necessary to reflect updates in our Sustainability Policy. Our positions include support for:

– The Paris Agreement objectives to limit global temperature rise to well below 2°C this century, and to pursue efforts to limit the increase to 1.5°C. We will regularly review our approach in the context of the UNFCCC actions, credible sources of climate science and emerging regulation;

– Principle-based carbon price mechanisms that promote least cost abatement, collaboration and international transfers, that align with rules determined under Article 6 of the Paris Agreement;

– There should be bi-partisan policy linking to the Paris Agreement objectives, and flexibility in carbon market design during a transition period to accommodate sector- and country-specific challenges;

– Technology-neutral energy policy that balances affordable access to reliable energy and GHG emissions reduction, and technology-banded policy or subsidies to accelerate technology deployment; and

– Collaboration across the value chain to strengthen product stewardship, encourage innovation and reduce GHG emissions.

In FY23, this included contributing to industry association formal submissions to the Australian Government's Safeguard Mechanism reforms, designed to facilitate Australia achieving its commitment to reduce GHG emissions by 43 per cent by 2030. Given the importance of the reforms to South32 and society, we also chose to make our own formal submissions to this process, emphasising support for reforms to the Safeguard Mechanism, key issues highlighted by industry associations and identifying specific considerations for South32.

Review of industry associations

Participation in industry associations is an important mechanism to engage and influence matters affecting South32, which complements our own advocacy on issues consistent with our purpose and strategy, including climate change. Membership provides important opportunities to contribute and influence industry positioning and knowledge sharing. We believe we have an important role to play in contributing to and formulating industry-wide positions that inform advocacy priorities.

Our Approach to Industry Associations describes how we consider and manage our industry association memberships, including the basis upon which we treat misalignments in policy.

+ **Read our Approach to Industry Associations at *www.south32.net*.**

Our material industry association memberships are available on our website, including a reference to the fee band applicable. These fees can be either fixed or as a proportion of revenue or volume, and are generally not assigned to a particular activity.

Many of the associations we are a member of actively participated in public policy development relating to climate change during FY23. Consistent with Our Approach to Industry Associations, we contributed to many of those processes as working group participants.

Since 2019, we have undertaken an annual review of our member industry associations' positions on climate change to evaluate alignment with our own position, strategy and values. Findings from these reviews are published in our sustainability disclosures.

For FY23, our review was again conducted on alignment of our climate change advocacy positions, against the policy statements and advocacy undertaken by our key industry association memberships. This year we engaged an external consultant to support the review, providing a greater depth of analysis and impartiality. The review considered

all available public documentation including traditional and social media, speeches, submissions, website content and public statements, focusing on activity undertaken during FY23. The review was supplemented by regular monitoring throughout the year as part of our participation on industry association committees, working groups and other membership initiatives.

The review also considered our expectation that the industry associations that we are members of undertake no direct advocacy on energy coal expansion or energy coal subsidies, particularly in the absence of an associated position on technology development.

On balance, our FY23 review determined that associations we are members of have policies and have undertaken advocacy activity aligned with our own. No findings were determined that would trigger a review of ongoing membership.

The review identified areas for continued focus in our industry association memberships, particularly advocacy undertaken by the Queensland Resources Council, which will inform our ongoing engagement and discussion.

In FY24, we will continue our practice of regular monitoring and engagement to sustain alignment, raise any concerns as appropriate and consider our ongoing participation as outlined in Our Approach to Industry Associations.

While we do not support direct advocacy from our industry association memberships on energy coal expansion or energy coal subsidies, we note that many of the industry associations we are a member of contain broad commodity representation, including energy coal producers, which can create differing views. Where advocacy for energy coal is undertaken, we manage potential misalignment consistent with Our Approach to Industry Associations.

+ **Learn more about our FY23 review of industry associations in our 2023 Sustainability Databook at *www.south32.net*.**

CLIMATE CHANGE RISK MANAGEMENT

Climate change, and the social and economic responses to it, pose risks to our portfolio, physical assets and people, as well as the infrastructure, markets, communities and environment on which we rely.

Climate-related risks are managed at both the company-wide strategic level and the local level for operations, functions and projects. We regularly assess these dynamic risks through a framework that considers policy, market and physical factors. The consideration of climate change-related risks in key estimates, assumptions and judgments are described in Note 2 to the financial statements, at *www.south32.net*.

Assessing climate-related risks alongside other risks enables us to consider the relative significance of climate-related risks in the context of the Group as a whole. This helps our approach to mitigation, transfer, acceptance or control of climate-related risks to be integrated into our overall risk management framework.

We complement our risk management approach with scenario analysis to stress test climate-related risks. Since our first climate-related scenario analysis in 2017, we have continued to revise and build upon our assessment of resilience to physical impacts as well as transition impacts, using an approach aligned with the TCFD recommendations.

+ **Read more about our scenario analysis on pages 93 to 95, and our work on managing physical climate risks on page 114.**

Risk management framework

Risk management is fundamental to maximising the value of our business and informing its strategic direction. Effective risk management enables us to identify priorities, allocate resources, demonstrate due diligence in discharging legal and regulatory obligations, and meet the standards and expectations of our stakeholders.

Our approach to risk management is governed by our risk management framework, which has been in place since 2015. The framework is delivered through our system of risk management which is aligned to the principles of the International Standard for Risk Management AS/NZS ISO 31000:2018. This approach applies to all Directors, employees, and contractors of South32.

We report real-time risk data through our risk management tool, Global360, which connects data relating to the management of our risks, events, hazards and assurance actions. Reliable data on material risks contributes towards the monitoring and management of our strategic risks, providing insight into trends and emerging themes that can trigger a review of our business plans or inform a change in strategic direction.

The effective management of our material and strategic risks is routinely assessed by our Lead Team. These risks are reviewed by the Risk and Audit Committee and the Sustainability Committee, which assist the Board to carry out its role of overseeing our risk management and assurance practices.

In FY23, Climate Change and Environment was once again identified as a strategic risk. This strategic risk encompasses a range of different factors including both physical and transition risks, as well as existing and emerging regulatory requirements. A description of the interrelationship of climate change with South32's strategic risks is set out in the Climate change risk management section of our CCAP. These strategic risks, and related targets and goals, describe the time horizons over which our climate change approach applies and set out how decisions to mitigate, transfer, accept and control those risks are made.

+ **Learn more about risk management in our 2023 Annual Report at *www.south32.net*.**

Mining related terms

Alumina
Aluminium oxide (Al_2O_3). Alumina is produced from bauxite in the Bayer refining process. It's then converted (reduced) in an electrolysis cell to produce aluminium metal.

Bauxite
Principal commercial ore of aluminium.

Code
Code of Business Conduct.

Coking coal
Used in the manufacture of coke, which is used in the steelmaking process by virtue of its carbonisation properties. Coking coal is a form of, and may also be referred to as, metallurgical coal.

Energy Attributes
Energy attributes represent information about the energy generated, such as its GHG emissions factor, but not the energy itself. Attributes may be conveyed in the form of certificates, tags, credits, generator declarations or other contractual instruments.

Energy coal
Used as a fuel source in electrical power generation, cement manufacture and various industrial applications. Energy coal may also be referred to as steaming or thermal coal.

Energy consumption
Energy consumed where we have operational control includes fuel consumed for non-combustion and combustion activities, regardless of the use, i.e. stationary or mobile purposes. Where energy is consumed to generate a secondary energy stream (for example electricity generation or transfer of unprocessed natural gas to natural gas ready for distribution), only the primary energy consumption is reported.

Firming
Firming refers to maintaining the output from an intermittent power source for a required length of time to ensure enough energy is available to meet demand.

Greenfield
An exploration or development project that refers to a new venture or operation, without any association or proximity to a current operation.

Metallurgical coal
A broader term than coking coal that includes all coals used in steelmaking, such as coal used for the pulverised coal injection process.

Tailings
The left-over materials that remain after the target mineral is extracted from ore.

TSF
Tailings Storage Facility.

Finance, marketing and general terms

ABC
Anti-bribery and corruption.

Agency Contractor
This is an individual employed by an external organisation, whose labour is provided to South32 pursuant to an agreement between South32 and the employer organisation. Agency contractors must be onboarded through South32 Human Resources processes, managed as an employee and are always supervised by a South32 employee. Can also be referred to as a Labour Hire Contractor or an Embedded Contractor.

Aluminium Stewardship Initiative (ASI)
The ASI works together with producers, users and stakeholders in the aluminium value chain to collaboratively foster responsible production, sourcing and stewardship of aluminium.

ASX
ASX Limited or Australian Securities Exchange.

Baseline water stress
The ratio of total annual water withdrawals to total available renewable surface and groundwater supplies, accounting for upstream consumptive use. Higher values indicate more competition among users. The values and definition of baseline water stress have been derived from World Resources Institute (WRI) Aqueduct 3.0: Updated Decision-Relevant Global Water Risk Indicators.

B-BBEE
Broad-Based Black Economic Empowerment.

Behind-the-meter
Electricity that is generated on the customer side of utility metering.

Biodiversity
Refers to the variety of life on Earth – the different animals, plants and micro-organisms, their genetic diversity and the ecosystems of which they are a part.

Black People
As defined in the *Broad-Based Black Economic Empowerment Amendment Act 2013* (South Africa), a generic term meaning Africans, Coloureds and Indians who are citizens of the Republic of South Africa by birth or descent; or who become citizens of the Republic of South Africa by naturalisation before 27 April 1994 or on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalisation prior to that date.

Board
The Board of Directors of South32 Limited.

Carbon Credit
A transferrable instrument representing an emission reduction of one metric tonne of carbon dioxide, or an equivalent amount of other GHGs, that has been created and verified in accordance with a regulatory program in which they can be used towards compliance with a legal obligation to limit emissions.

Carbon offset
An action that avoids, reduces or removes GHG emissions to compensate for emissions that occur elsewhere.

Catchment
The area of land from which all surface runoff and subsurface water flows through a sequence of streams, rivers, aquifers and lakes into the sea or another outlet at a single river mouth, estuary, or delta. Catchments include associated groundwater areas and might include portions of waterbodies (such as lakes or rivers). In different parts of the world, catchments are also referred to as 'watersheds' or 'basins' (or sub-basins).

CCAP
Climate Change Action Plan contained in the 2022 Sustainable Development Report available at *www.south32.net*.

CEO
Chief Executive Officer.

CFO
Chief Financial Officer.

CO_2-e
Carbon dioxide equivalent.

Contextual water target
A contextual water target is a specific timebound target that is set to deliver an intended outcome based on the environmental and social context of the local catchment.

Contractor
A contractor is an employee of a company contracted by the employer to do work on its behalf and under its control with respect to location, work practices and application of health and safety standards.

COO
Chief Operating Officer.

COVID-19
Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus.

CTO
Chief Technical Officer.

Decarbonisation
Avoiding or reducing the greenhouse gas emissions associated with an activity.

Dewatering
Aquifer interception and removal of water from beneath the earth's surface. Does not include the removal of sea water.

Employee
Any person in full-time, part-time or casual employment engaged by South32 on a temporary or permanent basis pursuant to a contract of service.

Environmental incident
Any event with an impact to land, biodiversity, ecosystem services, water resources or air.

ESD
Enterprise and Supplier Development.

ESG
Environmental, social and governance.

EthicsPoint
A 24/7 confidential reporting hotline that is serviced by an independent provider.

Fatality
A health or safety event where an injury or occupational illness has caused the death of one or more person(s).

FPIC
Free, prior and informed consent.

Fugitive emissions
Greenhouse gases that are released to the atmosphere from underground coal seams during mining activities.

FYXX
Refers to the financial year ending 30 June 20XX, where XX is the two-digit number for the year.

GEMCO
Groote Eylandt Mining Company.

GHG
Greenhouse gas.

GISTM
Global Industry Standard on Tailings Management.

Global Reporting Initiative (GRI)
GRI is an international independent organisation that has established an international framework and standards for sustainability reporting. South32 prepares our Group-level annual Sustainable Development Report in accordance with the GRI Sustainability Reporting Standards.

Goal
The use of this term in the context of climate change in this report means an aspiration to deliver an outcome for which we have not identified a pathway for delivery, but for which efforts will be pursued towards achieving that outcome, subject to certain assumptions or conditions.

Greenhouse gas (GHG) emissions
For our reporting purposes, GHG emissions are the combined anthropogenic emissions of carbon dioxide (CO_2), methane (CH4), nitrous oxide (N2O), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). They are measured in carbon dioxide equivalent (CO_2-e). Hydrofluorocarbons (HFCs) GHG emissions are currently not relevant for our reporting purposes.

- Scope 1 emissions - GHG emissions from our own operations, including the electricity we generate at our sites.

- Scope 2 emissions - Indirect GHG emissions from the generation of purchased electricity.

- Scope 3 emissions - GHG emissions in the value chain.

HMM
Hotazel Manganese Mines.

HRIAs
Human Rights Impact Assessments.

HRRSAs
Human Rights Risk Self-assessments.

Human Rights
Human rights are the universal and inalienable rights and freedoms that every person is entitled to regardless of race, sex, nationality, ethnicity, language, religion or any other status. Human rights recognise the inherent value of each person, based on principles of dignity, equality and respect. We are committed to respecting all internationally recognised human rights as set out in the International Bill of Human Rights (comprising the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights) and the International Labour Organization Declaration on Fundamental Principles and Rights at Work.

ICMM
ICMM, previously referred to as the International Council on Mining and Metals, is an international organisation that leads through collaboration to enhance the contribution of mining and metals to sustainable development. As a corporate member, South32 commits to implementing and reporting on the ICMM Mining Principles and its Performance Expectations, which define environmental, social and governance requirements.

IMC
Illawarra Metallurgical Coal.

Indigenous, Traditional and Tribal Peoples
We use the defined term 'Indigenous, Traditional and Tribal Peoples' as per the definition and guidance set out in the Indigenous and Tribal Peoples Convention, 1989 (No. 169). We use this term inclusively to encompass the diversity of worldwide Indigenous, Traditional and Tribal Peoples, including but not limited First Nations, Native Americans, Traditional Owners, Aboriginal and Torres Strait Islander Peoples and other land connected communities. We recognise that no single definition can fully capture the diversity of Indigenous, Traditional and Tribal Peoples.

Injury
An occupational injury occurs during a single work shift or a single exposure to an agent(s) causing an acute toxic effect, which can be identified by time and place resulting from direct contact with an object following an instantaneous event. Examples include cut, puncture, laceration, abrasion, fracture, bruise, contusion, chipping tooth, amputation, insect bite, electrocution, or a thermal, chemical, electrical or radiation burn. Sprain and strain injuries to muscles joints connective tissue are classified as injuries when they result from a slip, trip, fall or other similar accidents.

Intergovernmental Panel on Climate Change (IPCC)
The IPCC is the international body for assessing the science related to climate change. The IPCC was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Program (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

International Financial Reporting Standards (IFRS)
Accounting standards as issued by the IASB (International Accounting Standards Board).

Just transition
A fair, equitable and inclusive social transition towards a low-carbon economy.

Local procurement
Local procurement is the direct purchase of goods and services within the local communities in which South32 operates. Suppliers are deemed as local based on their proximity to our local communities, including boundaries defined by local government areas, provinces and states.

Lost time injury
The sum of work-related (fatalities + injuries that caused permanent impairment >30 per cent of body + lost time injuries). Lost time injuries include injuries that result in one or more lost work day after the day of the event.

Lost Time Injury Frequency (LTIF)
The sum of (Lost Time injuries x 1,000,000) ÷ exposure hours, for employees and contractors. This is stated in units of per million hours worked for employees and contractors. We adopt the United States Government Occupational Safety and Health Administration (OSHA) guidelines for the recording and reporting of occupational injuries and illnesses.

Low-carbon
Refers to lower levels of GHG emissions when compared to the current state. Where used in relation to South32's products or portfolio, it refers to enhancement of existing methods, practices and technologies to substantially lower the level of embodied GHG emissions as compared to the current state.

Low-carbon aluminium
Aluminium produced in a process that results in less than 4t CO_2-e Scope 1 and Scope 2 GHG emissions per tonne of aluminium produced.

LTI
Long-term incentive.

Management roles
Management roles are leaders with an identified job grading of 13 or higher based on the requirements of their role.

Material sustainability topic
Topics that represent the organisation's most significant impacts on the economy, environment, and people, including impacts on their human rights.

MCA
Minerals Council of Australia.

Modern slavery
The term modern slavery is used to describe situations where coercion, threats or deception are used to exploit victims and undermine or deprive them of their freedom.

As defined by the *Australian Modern Slavery Act 2018* (Cth) modern slavery include eight types of serious exploitation: trafficking in persons; slavery; servitude; forced marriage; forced labour; debt bondage; deceptive recruiting for labour or services; and the worst forms of child labour. The worst forms of child labour means situations where children are subjected to slavery or similar practices, or engaged in hazardous work.

MRN
Mineração Rio do Norte.

MSWG
Modern Slavery Working Group.

Net zero
Net zero greenhouse gas emissions are reached when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period.

No net loss
The impacts on biodiversity caused as a result of a development project/activities are balanced (so that no net loss remains) by measures taken to:

1) Avoid;

2) Minimise and mitigate negative impacts;

3) Rehabilitate or restore affected areas; and

4) Offset the residual impacts.

Finance, marketing and general terms continued

Occupational Exposure Limit (OEL)
The concentration of a substance or agent, exposure to which, according to current knowledge, should not cause adverse health effects nor cause undue discomfort to nearly all workers.

Occupational illness
An occupational illness is any abnormal condition or disorder, other than one resulting from an occupational injury, caused or aggravated by exposures to factors associated with employment. It includes acute or chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion or direct contact.

Operational GHG emissions
Scope 1 and 2 GHG emissions from our operated assets.

Operational Leadership Team
All General Managers and Managers reporting to Vice President Operations including Functional Managers such as Human Resources, Finance and Supply, etc. (limited to one per function).

Our people
As defined in our Code of Business Conduct, our people includes South32 Directors, executive management, employees and contractor staff.

Paris Agreement
A legally binding international treaty on climate change that aims to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so.

Physical climate risk
Physical climate risks are driven or intensified by weather, climate variability or climate change. They include acute risks, resulting from increased frequency or severity of extreme weather events (e.g., drought or flood events) and chronic risks, resulting from longer-term changes in climate patterns (e.g., sustained higher temperatures, sea level rise).

RAC
Risk and Audit Committee.

RAP
Reconciliation Action Plan.

Recordable Illnesses
The sum of work-related (fatalities + illnesses that caused permanent impairment >30 per cent of body + lost time illnesses + restricted work illnesses + medical treatment illnesses)

Recordable injuries
The sum of work-related (fatalities + injuries that caused permanent impairment >30 per cent of body + lost time injuries + restricted work injuries + medical treatment injuries).

SAEC
South Africa Energy Coal.

'Safety guarantee'
Our 'safety guarantee' is our internal approach to creating a sense of chronic unease to enhance our safety culture. Every day, we ask our people to reflect on whether they can guarantee both their safety and that of their colleagues when executing their role. If the answer is no, then the challenge is to stop and ask what would need to be done differently to provide that guarantee.

SASB
Sustainability Accounting Standards Board.

Scope 1 emissions
GHG emissions from our own operations, including the electricity we generate at our sites.

Scope 2 emissions
Indirect GHG emissions from the generation of purchased electricity.

Scope 3 emissions
GHG emissions in the value chain.

Senior Leadership Team
Presidents and Vice Presidents reporting to members of the South32 Lead Team.

Shared value
The identification of opportunities that create economic value while also advancing the environmental and social outcomes of the communities and regions in which we operate.

SMMEs
Small, medium and micro enterprises.

Social investment
Contributions made to support communities where we operate or have an interest. Our contributions to community programs comprise direct investment, in-kind support and administrative costs.

South West Interconnected System
The electricity grid in the south-west part of Western Australia comprising transmission, owned by the Western Australian Government, and electricity generators. It is not connected to other large Australian grids.

South32, South32 Group or Group
Refers to South32 Limited and its controlled entities and joint arrangements, unless otherwise stated.

STI
Short-term incentive.

Supply Chain
The global network of suppliers that support South32's operations, development options and exploration programs through the flow of goods, services and information.

Sustainability, sustainable development, sustainably
Our approach to sustainability aims to balance environmental, social and economic considerations in a way that creates enduring value for our stakeholders. We recognise that in many cases these considerations will be interdependent or may compete or conflict with each other. In delivering our strategy we aim to understand and balance the environmental, social and economic impacts of our business in a way that seeks to create value overall. References to sustainability (including sustainable development and sustainably) in the suite or other disclosures do not mean that there will be no adverse impact, or an absolute outcome, in any one area.

Target
An intended outcome in relation to which we have identified one or more pathways for delivery of that outcome, subject to certain assumptions or conditions.

Taskforce on Climate-Related Financial Disclosures (TCFD)
The TCFD has issued climate-related financial disclosure recommendations designed to help companies provide better information to support informed capital allocation.

Taskforce on Nature-Related Financial Disclosures (TNFD)
A taskforce to develop and deliver a risk management and disclosure framework for organisations to report and act on evolving nature-related risks.

TEMCO
Tasmanian Electro Metallurgical Company.

Total Recordable Injury Frequency (TRIF)
(The sum of recordable injuries x 1,000,000) ÷ exposure hours, for employees and contractors. This is stated in units of per million hours worked for employees and contractors. We adopt the United States Government Occupational Safety and Health Administration (OSHA) guidelines for the recording and reporting of occupational injuries and illnesses.

Total Recordable Illness Frequency (TRILF)
(The sum of recordable illnesses x 1,000,000) ÷ exposure hours, for employees and contractors. This is stated in units of per million hours worked for employees and contractors. We adopt the United States Government Occupational Safety and Health Administration (OSHA) guidelines for the recording and reporting of occupational injuries and illnesses.

Transformation
A national strategy in South Africa aimed at attaining national unity, promoting reconciliation through negotiated settlement and non-racism.

Underlying EBITDA
Underlying EBIT before underlying depreciation and amortisation.

United Nations Global Compact (UNGC)
The United Nations Global Compact is a call to companies to align strategies and operations with universal principles on human rights, labour, environment and anti-corruption, and take actions that advance social goals. South32 is an active member of the UNGC since 2019.

UN SDGs
United Nations Sustainable Development Goals.

Value Chain
The interrelated activities and systems involving the full lifecycle and added value of our products and processes, in which South32 explore and develop our commodities, through to processing, refining and smelting, and finally to sale and distribution to customers and closure of the mines.

VAM
Ventilation Air Methane.

VPSHR
Voluntary Principles on Security and Human Rights.

Water consumption
Water that is removed by evaporation, entrainment (in product or waste) or other losses, and not released back to surface water, groundwater, seawater or a third party.

Water discharge
Water that is released back to the water environment (surface water, groundwater or seawater) or to a third party.

Water risk

Water risk is the possibility of an entity experiencing a water-related challenge (e.g., water scarcity, water stress, flooding, infrastructure decay, drought). The extent of risk is a function of the likelihood of a specific challenge occurring and the severity of the challenge's impact. The severity of impact itself depends on the intensity of the challenge, as well as the vulnerability of the actor.

Water scarcity

Water scarcity refers to the volumetric abundance, or lack thereof, of freshwater resources

Water stress

Water stress refers to the ability, or lack thereof, to meet the human and ecological demand for freshwater. Stress comprises three primary components: availability, quality, and accessibility and is based on subjective elements and is assessed differently depending on societal values, such as the suitability of water for drinking or the requirements to be afforded to ecosystems.

Water use efficiency

Water use efficiency is calculated as the total water recycled and reused divided by the sum of total water recycled and reused and total operational inputs/withdrawal.

Water withdrawal

Water that is drawn from the environment (surface water, groundwater or seawater) or third parties.

SOUTH32