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**NORTHERN STAR**  
RESOURCES LIMITED



**Sustainability Report 2023**





# Acknowledgement of Country

Northern Star would like to acknowledge and pay our respects to Traditional Owner groups, upon whose land our operations in Australia are situated.

- Darlot
- Kakarra
- Kultju
- Maduwongga
- Marlinyu Ghoorlie
- Nyalpa Pirniku
- Tjiwarl
- Wajarri Yamatji
- Warlpiri, Gurindji and Jaru
- Whadjuk Noongar
- The Wiluna Martu

Northern Star would like to acknowledge and pay our respects to the Athabascan people, upon whose ancestral lands our Pogo Operation in Alaska, is situated.

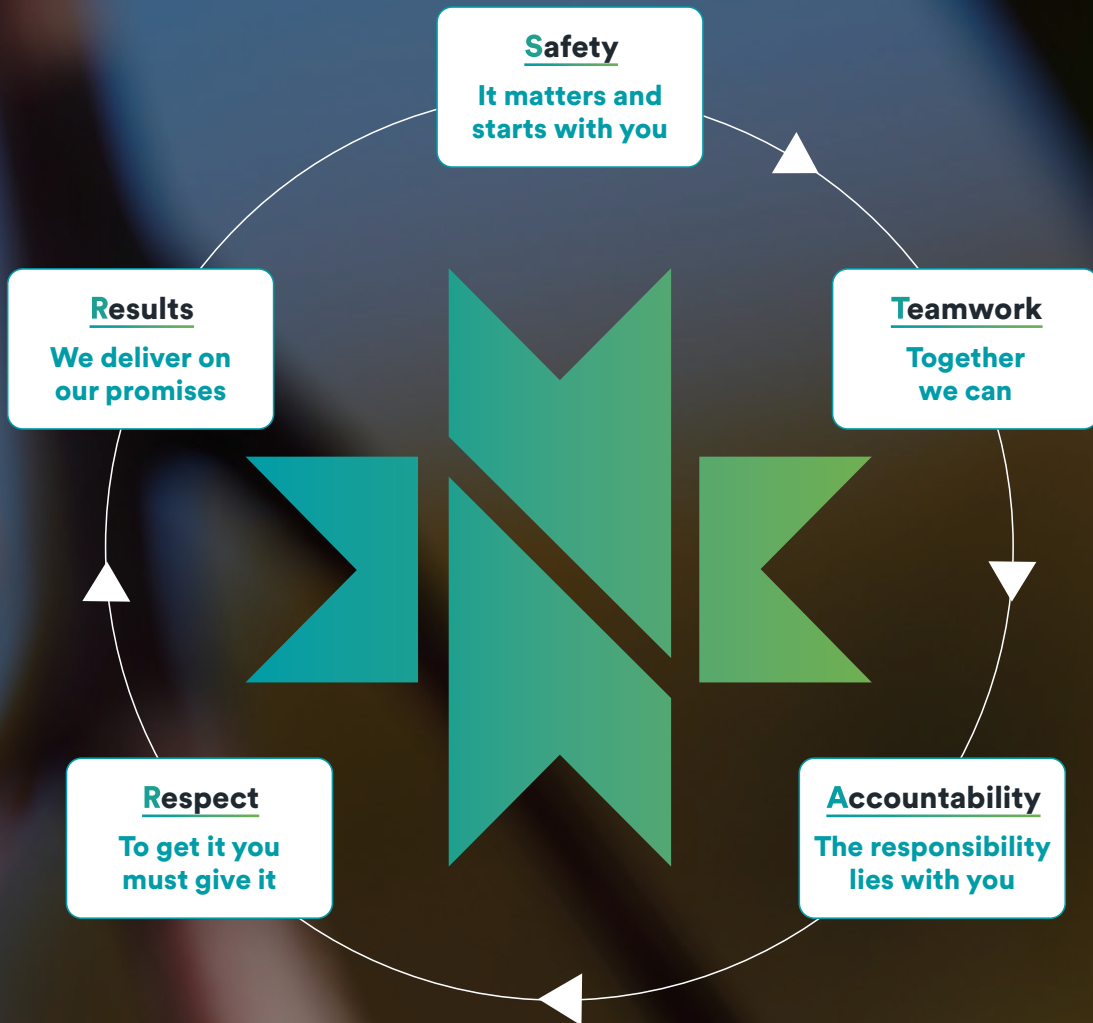
We seek and value the guidance and input of these Indigenous groups in the operation of our business. We acknowledge their strong and special physical and cultural connections to their ancestral lands on which we are privileged to operate.

# Our Purpose

To generate superior returns for our shareholders, while providing positive benefits for our stakeholders, through operational effectiveness, exploration and active portfolio management.

# Our STARR Core Values

Our Core Values are integral to the working lives of all our workers and Operations.







Daniel Howe, Chief Geological Officer on site at Kanowna Belle, Kalgoorlie Production Centre, Western Australia

## About This Report

This Report has been prepared by Northern Star Resources Limited (ABN 43 092 832 892) (Northern Star) for informational purposes only. This Report should be read in conjunction with Northern Star's Annual Report and other periodic and continuous disclosure announcements lodged with the ASX, which are available on Northern Star's website at <https://www.nsrld.com/>.

Northern Star has reported in accordance with the GRI Standards for the period 1 July 2022 to 30 June 2023.

Management has sought independent, third-party assurance by Bureau Veritas Australia Pty Ltd of all data relating to GRI core and material disclosures in this Report. These disclosures are identified in our GRI, SASB and UN SDG Alignment Index. Where partial assurance is received, or a topic note assured, that information has been included in the Index. A copy of the assurance statement is provided in Appendix A.

This Report was reviewed and approved by Northern Star's Board of Directors and published on 23 August 2023. Monetary amounts in this Report are reported in Australian dollars unless otherwise stated.

## Feedback

We welcome feedback and invite readers to send any comments or enquiries about this Report to us at [esgperformance@nsrld.com](mailto:esgperformance@nsrld.com)

## Disclaimer

This Report contains forward-looking statements, including statements of current intention and expectation. This includes statements regarding climate change and other environmental and energy transition scenarios. These forward-looking statements are based on information available at the date of this Report.

While these forward-looking statements discuss Northern Star's expectations at the date of this Report, they are not guarantees or predictions of future performance, and by their nature, are subject to significant uncertainties, many of which are beyond Northern Star's control. Actual results and developments may differ materially from those expressed in this report and Northern Star cautions readers against reliance on any forward-looking statements or guidance. There are also limitations with respect to scenario analysis, and it is difficult to predict which, if any, of the scenarios might eventuate. Scenario analysis is not an indication of probable outcomes and relies on assumptions that may or may not prove to be correct or eventuate. Except as required by applicable laws or regulations, Northern Star does not undertake to publicly update or review any forward-looking statements, whether as a result of new information or future events.

## Assumptions

Refer to Appendix B for more information on the assumptions relied on in relation to our Net Zero Ambition and Emissions Reduction.



# In this Report

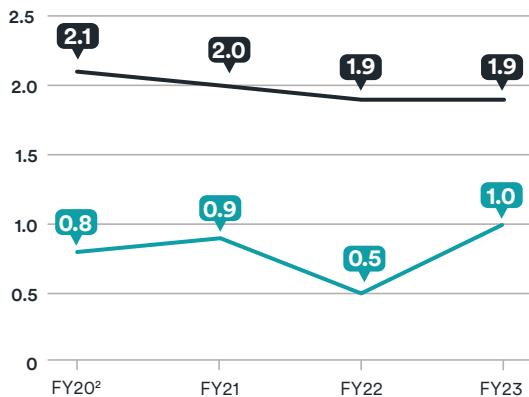
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**Note** - This report provides specific information and updates on Northern Star's FY23 sustainability disclosures and should be read in conjunction with our website disclosures. Throughout this report there are links to supporting information on our website which the reader is encouraged to read. The Northern Star website contains significant additional supporting information including our annual Performance Data Tables, GRI Index and references to our previous disclosures. The website disclosures combined with this report provide comprehensive disclosure of our Sustainability initiatives and performance.

# Sustainability Snapshot

## Safety – LTIs

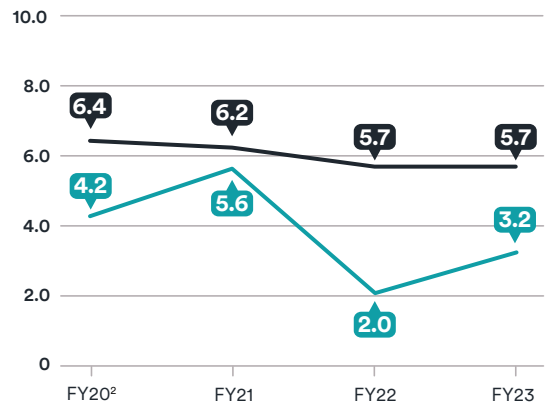
LTIFR 1.0



Key — Northern Star — Industry average<sup>3</sup>

## Safety – LTIs + RWIs

TRIFR<sup>1</sup> 3.2



Northern Star’s safety performance remains on focus across our Operations, and we have continued to implement best practice safety programs and processes to maintain the health and safety of our employees and contractors. The results for FY23 were impacted by a challenging first half which does not reflect on the hard work and efforts we acknowledge from our people. We are proud to say that although we have increased our size operationally with approximately 1.5 million additional exposure hours, several key expansion projects continuing development or becoming operational, and returning to business-as-usual post COVID limitations, we have still maintained safety performance well below industry averages.

Northern Star would like to congratulate our employees and contractors on the continued effort to maintain a safe workplace while ensuring our Operations function efficiently and effectively.

### Our Workforce

5,961

employees and contractors<sup>4</sup>

### Female Employment

23.1%

### Culture Survey Participation

82%

1. Number of reportable injuries (Lost Time Injuries and Restricted Work Injuries) per million hours worked. Calculated on a 12-month rolling average.  
 2. Inclusion of historical legacy data from Saracen assets prior to the Merger has resulted in a restate of data prior to February 2021.  
 3. - FY23 Industry means the DMIRS Safety Performance in the Western Australian Mineral Industry – Accident and Injury Statistics 2020-21 Metalliferous total.  
 - FY22 Industry means the DMIRS Safety Performance in the Western Australian Mineral Industry – Accident and Injury Statistics 2020-21 Metalliferous total.  
 - FY21 Industry means the DMIRS Safety Performance in the Western. Australian Mineral Industry – Accident and Injury Statistics 2019-20 Metalliferous total.  
 - FY20 Industry means the DMIRS Safety Performance in the Western Australian Mineral Industry – Accident and Injury Statistics 2018-19 Metalliferous total.  
 4. At 30 June 2023.

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**Gold Sold**

1.56<sup>Moz</sup>

**Revenue**

\$4.13<sup>B</sup>

**Modern Slavery Supplier  
Corrective Action Plans**

>85%

supplier audits closed after corrective action plans have been confirmed as completed

**Economic Value Add**

\$4.07<sup>B</sup>

direct and indirect economic value add

**Governance**

100%

Alignment with ASX Corporate Governance Council Principles & Recommendations

**Community Investment**

\$6.6<sup>M</sup>

Financial and in-kind commitments made in FY23

**Net Zero Ambition**

NET ZERO

for Scope 1 and 2 absolute Emissions by 2050 relative to 1 July 2020 baseline of 931 kt CO<sub>2</sub>-e

**Emissions Reduction Target**

↓35% BY 2030

Scope 1 and 2 absolute Emissions relative to 1 July 2020 baseline of 931 kt CO<sub>2</sub>-e

**Materially Adverse Incidents**

0  
INCIDENTS

environmental, community or heritage incidents

**Fatalities**

0  
FATALITIES

employee or contractor fatalities



# A Message from our ESS Chair

## Dear shareholders, employees and stakeholders

I am pleased to share our FY23 Sustainability Report with you.

This Report reflects our ongoing commitment to continuous improvement in environment, social performance and governance across all of our Operations for the benefit of our shareholders, employees and the communities in which we operate. We recognise that authenticity in our actions, and transparency in our disclosures, builds trust and credibility with our stakeholders and motivates a workforce which is proud to work for Northern Star.

We have continued to expand the scope of our limited assurance program to further enhance the accuracy and reliability of the information presented in our Sustainability Report and on our website disclosures. Limited assurance was again provided by Bureau Veritas Australia Pty Ltd on relevant data and statements against the requirements set out in the Global Reporting Initiative (GRI) Standards. The structure and content of this Report coupled with the limited assurance provides you, our stakeholders, with consistent, comparable and credible sustainability information. I also encourage you to refer to the additional information on our website including our historical disclosures and FY23 Performance Data Tables and FY23 GRI Index: Website ESG information.

Highlights for Northern Star in FY23 sustainability include:

- We are proud to report that our safety performance remains well below industry averages, notwithstanding an additional 1.5 million exposure hours due to several key expansion projects continuing development or becoming operational.
- We continued our progress towards achieving our Net Zero Ambition by 2050 through the execution of a Renewable Power Purchase Agreement at Jundee, for a renewable energy project which incorporates a solar farm, battery energy storage facility and four wind turbines, designed to reduce Jundee's Scope 1 and 2 Emissions by between 35% and 50% by 2030.
- We have continued to develop our Indigenous relationships by proactively creating procurement opportunities for Aboriginal businesses with our Operations and removed perceived barriers to Indigenous participation in our supply chain.
- We are making good progress in revisiting and modernising existing native title compensation agreements and negotiating new agreements with the Traditional Owners in proximity to our Operations.
- As part of our continued TCFD alignment we completed the development of a climate change-related risk financial quantification model. This was a

significant step forward from our previous qualitative scenario-based climate risk and opportunity analyses. This model provides us with information on the financial consequences of climate change related risks on each of our sites, taking into account site by site individual vulnerabilities and strengths.

- The ongoing success of the Williamstown voluntary relocation program in Kalgoorlie continues, bringing positive change for residents who choose to relocate. In addition, the Williamstown Heritage Project launched in March was an inclusive opportunity appreciated by residents past and present to contribute to an exhibition which explores and celebrates the 130-year history of Williamstown.
- Our community investment and sponsorship commitment expanded with long-term partnerships supporting organisations meeting our UN SDG gateway for financial and in-kind support. Embracing the Push Up Challenge across all our Operations is a mental health initiative and sponsorship that Northern Star is particularly proud to be associated with nationwide.
- We are committed to attracting, retaining and nurturing our thriving workforce. We are pleased that we have maintained our rate of female employment above the industry average, recognising that more still needs to be done to grow a more diverse workforce. We also successfully promoted over 1,000 of our people internally, providing development and growth for our people whilst also retaining their talent and knowledge in the business. It is also pleasing to report that our rate of residential employment has been maintained for both our Pogo Operations in Alaska and Kalgoorlie in Western Australia, further supporting the communities we are fortunate to operate within.

Looking ahead, by already reporting against the SASB, TCFD, CDP and GRI Standards, Northern Star is well placed to report against the International Sustainability Standards Board (ISSB) Standards when they are adopted in FY24. Also in next year's Report, we look forward to sharing our reporting journey aligning with the recommendations of the TNFD.

On behalf of the Board, thank you for supporting Northern Star in our sustainability journey.

Yours sincerely



*Sally Langer*

**Sally Langer**

Chair of the Environmental,  
Social and Safety Committee

Northern Star Resources Limited



# A Message from our Managing Director & CEO

## Dear shareholders, employees and stakeholders

On behalf of the Board of Directors of Northern Star Resources Ltd, we are delighted to present to you the Sustainability Report for the financial year ending 30 June 2023.

We are proud of the strong platform we have built on which to achieve our Purpose – to generate superior shareholder returns and deliver our five-year profitable growth strategy in FY26, targeting 2Moz production. In FY23 gold sales of 1,563koz were delivered within guidance, at an all-in-sustaining-cost of \$1,759/oz, within revised guidance. Northern Star is in a financially robust position, with company activity in FY23 generating cash earnings of over \$1.2 billion. At 30 June 2023 we held net cash of \$362 million and liquidity of \$2.2 billion, all underpinned by a solid platform of 57.4 million ounces of Mineral Resources and 20.2 million ounces of Ore Reserves. This operational and financial strength enables Northern Star to deliver \$4.07 billion in value add, including \$6.5 million invested in support for our communities.

The safety and wellbeing of our people is integral to our success. With TRIFR at 3.2, well below industry average, we are proud to say that the team has again delivered strong operational performance safely and responsibly in FY23, consistent with the STARR Core Values of Safety, Teamwork, Accountability, Respect and Results. Our focus is centred on delivering safety leadership at all levels of the business to strengthen the culture and hazard awareness across our Operations.

We are progressing our efforts to develop sustainable, long-term employment and building a sustainable pipeline of business development opportunities for the Traditional Owners and Aboriginal businesses in proximity to our Operations. We have continued to work together with our stakeholders to improve the opportunities and change lives for the better in the communities in which we operate, such as the Williamstown voluntary relocation

project adjacent to our KCGM Operations in Kalgoorlie. Our rates of residential employment have been maintained in Kalgoorlie and at Pogo, and female participation rates continue above industry average whilst we continue to focus on strengthening our culture and introducing attraction and retention initiatives to further increase female employment rates in the mining industry.

We are a sustainable, self-funded business currently focussed on opportunities to lower the costs of production, simplify the business with the purpose of generating superior returns for our shareholders, and progressing projects to reduce reliance on carbon-based energy sources. For instance, at Jundee we are working towards the construction and commissioning in 2024 of Northern Star's first wind farm, under a Power Purchase Agreement signed with Zenith. Other renewable projects are being developed for other sites to deliver lower power costs, impacting life of asset and increasing the economic value Northern Star brings, including hundreds of jobs and sustainable futures for the communities in which we operate.

On behalf of the Board, we hope you enjoy reading this Report, and we thank you for your support as a shareholder.

Yours sincerely



**Stuart Tonkin**  
Managing Director & CEO  
Northern Star Resources Limited

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# Overview

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# Overview



## Our Business & Where We Operate

Northern Star Resources is a global Australian gold producer with projects located in Western Australia and Alaska, both highly prospective and low sovereign risk regions.

Since 2010 the Company has significantly grown production, earnings and cash flows, and Resources and Reserves through operational excellence, organic growth and active investment in exploration.

### Scale of Organisation

3,587

Employees<sup>5</sup>

\$4.13<sup>B</sup>

Total revenue<sup>6</sup>

2,374

Contractors<sup>5</sup>

1.56<sup>M</sup>

Ounces of gold sold<sup>7</sup>

3

Number of production centres

55.2%

Local employees

\$98.7<sup>M</sup>

Gold royalties

\$4.07<sup>B</sup>

Total Economic Value Add<sup>8</sup>

5. At 30 June 2023.  
 6. Please refer to the Northern Star FY23 Annual Report for GRI 1 and GRI 2 disclosures around operating costs, and financial performance data.  
 7. Refer to note 4(i) to the FY23 Financial Statements in the FY23 Annual Report in relation to downstream sales.  
 8. Please refer to the Consolidated Statement of Cashflows in the Northern Star FY23 Annual Report for GRI 201-1a III.

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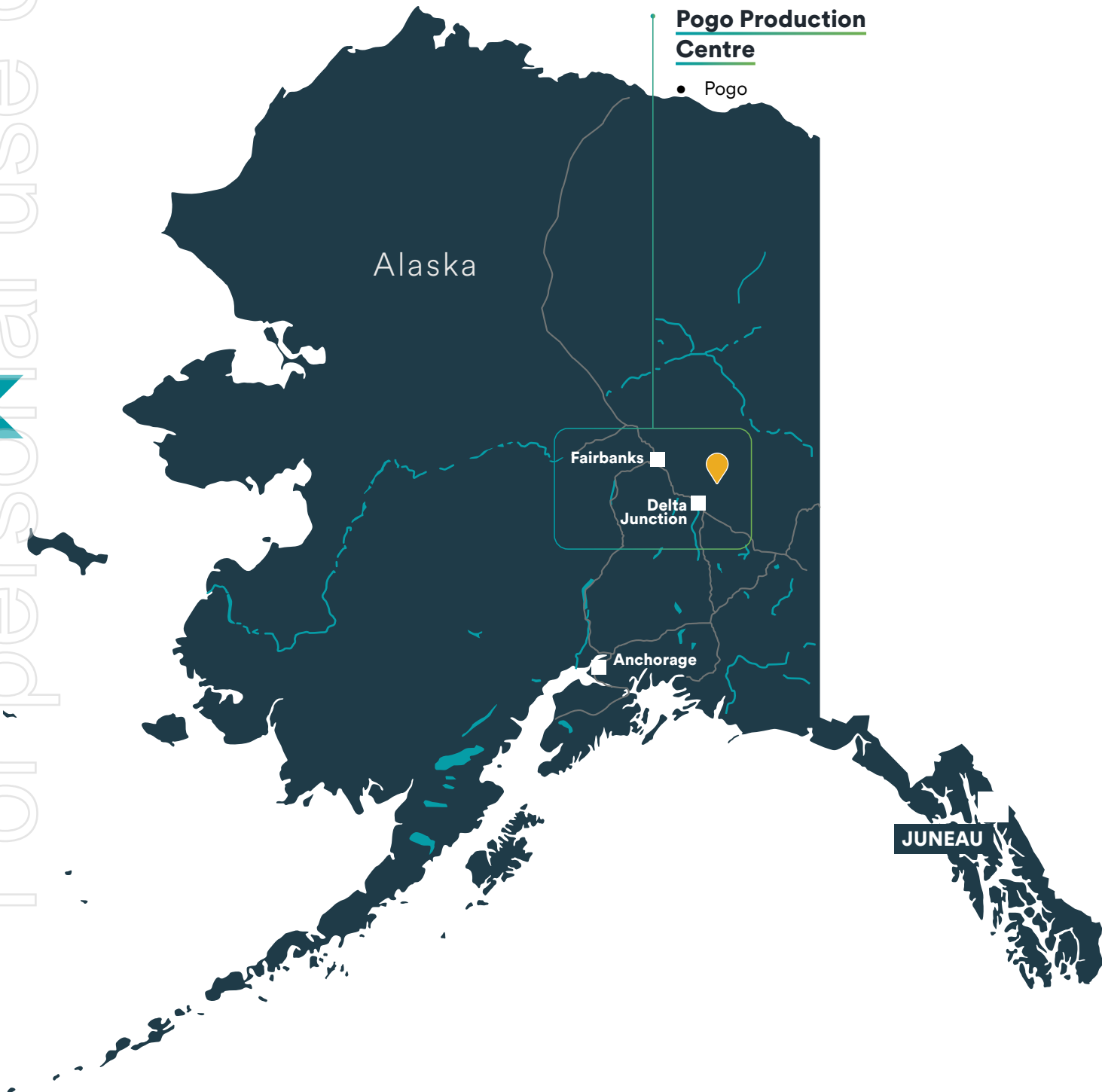
Dodzi Awuye, Gold Room  
Technician, Kanowna Belle,  
Kalgoorlie Production  
Centre, Western Australia



# Where We Operate

We own and operate three high-quality gold production centres: Kalgoorlie, Yandal and Pogo, all located in world class jurisdictions.

Figure 1 North American Operations



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Figure 2 Australian Operations



# Our Sustainability Journey

**Figure 3** Northern Star's FY23 and FY24+ Planned Sustainability Journey

## Our FY23 Achievements

### Climate change actions:

- Ongoing progress towards our Net Zero ambition by 2050 through implementation of our Decarbonisation Pathway actions
  - Power Purchase Agreement executed at Jundee
  - Board approval for Jundee renewable project
- Continued TCFD alignment and development of our Climate-related Financial Quantification Model

### Water & Biodiversity stewardship actions:

- Freehold land set aside as an offset location for the protection and enhancement of Malleefowl habitat
- Ongoing monitoring of protected butterfly species in the Goldfields Region

### Community & Stakeholder performance actions:

- Ongoing engagement with our communities and stakeholders including but not limited to: Employee Culture Surveys, ESG Focus Groups, Local Voices, participation in Trade and Community Fairs, and education programs
- Establishment of our Indigenous Procurement strategy methodology and processes
- Continued investment in long term sustainable partnerships with community groups and maintained strong focus on our local and regional community support programs
- Continued to engage with Traditional Owners on proposed projects, ongoing heritage protection and survey programs
- Continued implementation of the Williamstown voluntary relocation program & opening of the Williamstown Heritage Project

### Internal & External disclosures:

- External review and update of our Materiality Matrix and completion of our Employee ESG Focus Groups
- Continued increase in the quality and extent of our ESG disclosures, through our annual Sustainability Reports, Performance Data Tables and Company website
- Expanded the scope of Limited Assurance on our FY23 Sustainability Report, and maintained alignment with the Global Reporting Initiative (GRI)
- Continued improvement in our various ESG scores through external ratings agencies and frameworks

## Our Plans for FY24+

### Climate change actions:

- Planned commissioning of our solar array and construction works progressing on our windfarm at our Jundee Operations as part of our planned decarbonisation pathway
- Continue research into alternate technology for surface and underground mining vehicles to reduce emissions
- Expand our renewable programs across our other assets as applicable

### Water & Biodiversity stewardship actions:

- Apply a phased approach to the implementation of the Taskforce on Nature-related Financial Disclosures (TNFD) once formally released during FY24
- Progress further with biodiversity and water stewardship and conservation projects

### Community & Stakeholder performance actions:

- Continue focus on communication and engagement with our key stakeholders
- Further development of our Indigenous procurement strategy, and support for Indigenous businesses within our Operations and communities
- Continue investment in long term sustainable partnerships with community, education and industry groups
- Continue to engage with Traditional Owners on proposed projects, ongoing heritage protection and survey programs
- Continue to support the Williamstown voluntary relocation program

### Internal & External disclosures:

- Continue to expand our engagement within our workforce on ESG matters through internal communication
- Progressively transition to the new ISSB Standards from our current position while maintaining the integrity and quality of our existing disclosures
- Expand the scope of Limited Assurance in future Sustainability Reports, and maintain alignment with the GRI and ISSB
- Continue improvement in our various ESG scores through external ratings agencies and frameworks



### More on our website...

More information on our sustainability journey to date is available on our website at [Sustainability](#)

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Kirby Jefferies, Apprentice –  
Fixed Plant Electrical, Kanowna  
Belle, Kalgoorlie Production  
Centre, Western Australia



# Our Sustainability Approach

Northern Star's approach is to create sustainable and profitable value for our shareholders and other stakeholders through ongoing review and improvement of our environmental, social and governance performance. We aim to achieve this by identifying, managing and mitigating risks and impacts from our Operations while delivering superior outcomes for our shareholders, our people, our communities, and our natural environment.

Our approach to sustainability is underpinned by our STARR Core Values and framed by our governance structures and systems. Our STARR Core Values, together with our Code of Conduct and our Group policies, are fundamental to the sustainability of our Operations. They are integral to the working lives of all our employees and Operations, and they define what it means to work at Northern Star. They are at the heart of our culture and the way we do business.

Our commitment to improving our Environment, Social and Governance (ESG) performance is clearly demonstrated

through the business wide ESG targets and KPIs that we set ourselves and through our ESG performance targets forming meaningful proportions of our leadership team's remuneration.

By monitoring and tracking local to global ESG developments and priorities, we ensure that we remain informed and able to proactively respond to our stakeholders and the ESG issues important to them. We do this using a range of approaches including sector, industry and peer benchmarking and gap analyses, stakeholder and investor surveys, and employee ESG focus groups.

We benchmark our ESG performance and levels of assurance against that of our peers to provide guidance for improving our performance and ESG disclosures.

We are committed to transparently reporting our ESG performance and to act on areas identified for improvement.

Nathan Kehoe,  
Environmental Coordinator  
inspecting native vegetation,  
Pogo Operations, Alaska

## Boundary & Scope

This Sustainability Report provides information on Northern Star's sustainability performance across its Operations during the period 1 July 2022 to 30 June 2023.

This report should be read in conjunction with our public disclosures on our Company website at: <https://www.nsrld.com/sustainability>.

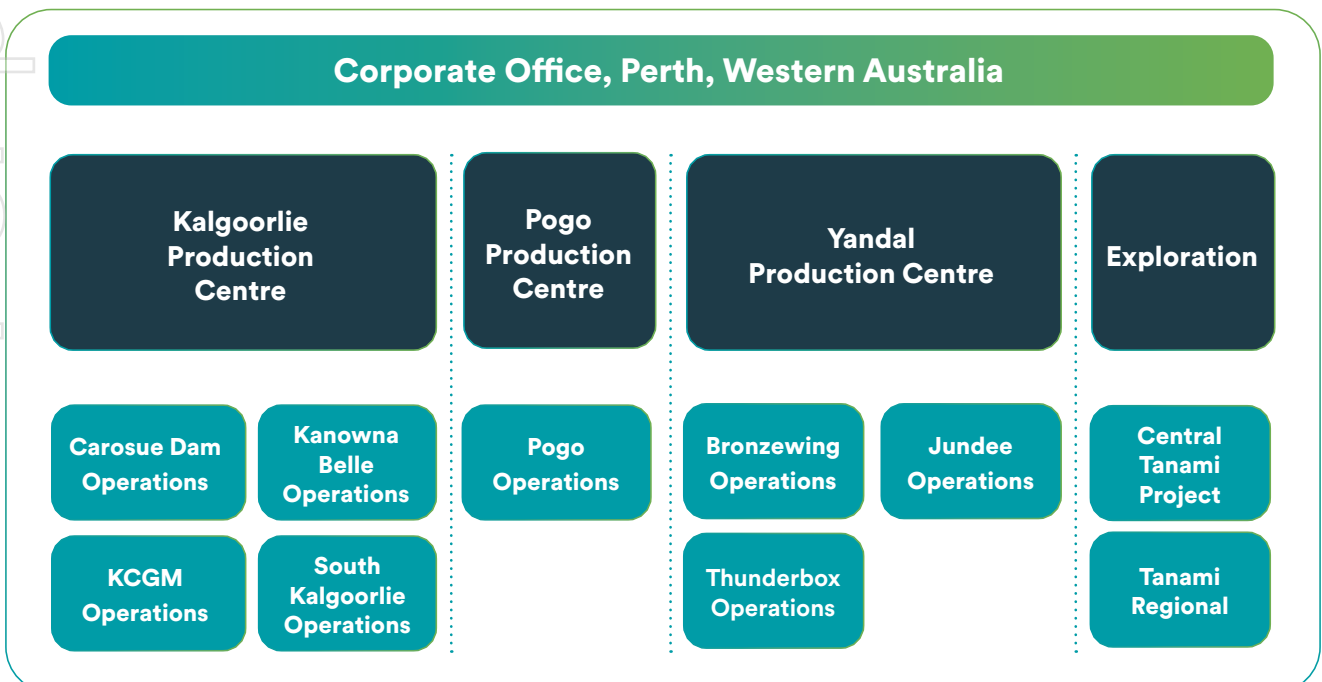
Northern Star's assets included in this Report are listed in Figure 4 below. Refer to the Material subsidiaries Note in the FY23 Financial Statements within the FY23 Annual Report for a list of entities included in Northern Star's financial reporting.

## Restatement of Information

This Report and our FY23 Performance Data Tables contain the following corrections and restatements related to disclosures from our FY22 Sustainability Report:

- Jundee Scope 1 Emissions were overstated by 63 t CO<sub>2</sub>-e in the FY22 Sustainability Report. This error was due to the incorrect use of fuel delivery dockets instead of fuel invoices, and a reconciliation error. Data was resubmitted the Clean Energy Regulator in April 2023 once the issue was identified. The correction of this error has also readjusted the net energy consumption, and air emissions reported for this facility and the Company for FY22.
- KCGM Scope 2 Emissions were overstated by 33,000 t CO<sub>2</sub>-e in the FY22 Sustainability Report. This error was due to discrepancies with the emissions factors applied to energy sources. Data was resubmitted the Clean Energy Regulator in April 2023 once the issue was identified. The correction of this error has also readjusted the net energy consumption, and air emissions reported for this facility and the Company for FY22.
- Electricity generation for Porphyry was incorrectly reported in FY22 and has been removed in this report.
- Total tonnes of material recycled in FY22 was overstated by 21 t as a result of a late adjustment to our General Waste recycled being reduced from 80 t down to 59 t.
- Total funds committed to Community Investment and Sponsorships was understated in the FY22 Sustainability Report by \$0.64M due to late inclusion of additional commitments that were pending applicant co-signing of agreements at the date of release of the FY22 Sustainability Report, and there were also several minor increases and adjustments on commitment values. This increases our FY22 funds committed to Community Investment and Sponsorships up from \$5.5M to \$6.14M.
- Revenue for FY22 (refer to Table 1) has been restated from \$3,735M to \$3,806M. Please refer to the FY23 Annual Report for summary of significant accounting policies explaining the change.

Figure 4 Corporate Structure



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## Materiality & Disclosure

Northern Star regularly considers and reviews future disclosure opportunities, including reporting frameworks and standards for Company alignment. This ensures that the priorities of our stakeholders are taken into account when we define our material topics and update our approach.

To ensure that we continue to strengthen the quality and breadth of our disclosures, we regularly assess our voluntary reporting against the disclosure topics and gold

industry material topics defined by key voluntary reporting standard and frameworks. This provides an understanding of our stakeholders' primary focus areas.

We then transparently disclose information which allows our stakeholders to assess and compare our sustainability performance.

In this Report we demonstrate our voluntary alignment with the following:

**Figure 5** Voluntary Alignments



### Global Reporting Initiative (GRI) Standards

The GRI Standards enable an organisation to report on their impacts on people, the environment, and the economy in a standardised manner. The aim is to increase an organisation's transparency in reporting and demonstrate its contribution to organisational sustainability. Northern Star has prepared the reported information in accordance with the GRI Universal Standards. GRI Index available on Northern Star's website at [FY23 GRI, SASB and UN SDG Alignment Index](#)



### Sustainability Accounting Standards Board (SASB)

The SASB Standards are aimed at connecting businesses and investors on the financial impacts of sustainability. Northern Star uses the Mining and Metals Sustainability Accounting Standard, updated in December 2021 to guide its sustainability disclosures.



### Task Force on Climate-Related Financial Disclosures (TCFD)

The Financial Stability Board created the TCFD to improve and increase reporting of climate-related financial information. The reports produced satisfy stakeholders' requirements for clear, detailed, and quality financial information on the impacts of climate change including potential risks and opportunities. Northern Star has disclosed in alignment with TCFD recommendations since 2019.



### United Nations Sustainable Development Goals (UN SDGs)

The United Nations members developed 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries in partnership to achieve a more sustainable future. We recognise our impact on, and opportunity to, positively contribute to all 17 SDGs.

Northern Star has been reporting against the UN SDGs in our annual Sustainability Reports since 2018. In FY23 we completed an updated assessment of our alignment with the goals (refer to our Sustainability Reporting website for additional information), which highlighted our priorities for the following ten SDGs where we believe we make the greatest impact:

- SDG 1 – No poverty
- SDG 3 – Good health and wellbeing
- SDG 4 – Quality education
- SDG 5 – Gender equality
- SDG 6 – Clean water and sanitation
- SDG 8 – Decent work and economic growth
- SDG 10 – Reduced inequalities
- SDG 13 – Climate action
- SDG 15 – Life on land
- SDG 17 – Partnerships for the goals

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We also participate in, or are included in, the following external ESG performance benchmarking initiatives and assessments conducted by third-party rating agencies:

- CDP (Climate Change and Water Security)
- S&P Global (Dow Jones Sustainability Index)
- Sustainalytics
- V.E Connect (Moody's)
- MSCI
- ISS (Environmental, Social and Governance)
- FTSE4Good

In conjunction with these ratings, we have continued to focus on the quality and availability of our own ESG metrics and to allow transparency in the information we provide to our stakeholders.

We use the outcomes of these assessments to change or improve how we disclose our performance in ESG and consider what further steps we can take which may benefit the business and improve our ESG performance.

Being aligned to and reporting against the SASB, TCFD, CDP and GRI Standards, Northern Star is well placed to report against the International Sustainability Standards Board (ISSB) Standards when they are adopted through the ISSB's consolidation of the SASB, GRI and TCFD reporting requirements.

We expect that following finalisation and release of the voluntary TNFD framework in September 2023, we should be in a more informed position to assess how we can measure and report on our direct impacts on nature as a result of our Operations.

We intend to follow a phased approach as we did with the Task Force on Climate-related Financial Disclosures, and propose in due course to disclose a realistic plan for reporting against the TNFD that is aligned with our Purpose and operational priorities.

The Company's Materiality Matrix was independently reviewed and updated during FY23 to continuously improve our disclosures, strategic action plans, and stakeholder engagement programs and ensure our FY23 Sustainability Report contained the most material topics for our stakeholders.

The materiality assessment incorporated consideration of impacts that are potentially material to our industry according to GRI and SASB; changing regulatory and socioeconomic influences; input from employee surveys and ESG engagement focus group sessions; results from social impact assessments and community feedback; commentary from external reviews, and interviews conducted by an independent third party with key stakeholder engagement resources.

Figure 6 FY23 Materiality Matrix



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The Company’s material topics for inclusion in this Report are provided in Figure 7 below. These material topics were

derived from our materiality assessment update that was undertaken in FY23.


**Figure 7** FY23 Material Topics (in alphabetical order)



**Our Stakeholders**

Northern Star is committed to ongoing positive stakeholder collaboration and engagement.

Our corporate governance framework adopted by the Board of Directors includes key policy documents which set out Northern Star’s standards for stakeholder engagement.



**More on our website...**  
An overview of our approach to engaging with our core stakeholder groups is provided on our Company website at [Sustainability](#), and further information is provided throughout the Report.

**Sustainability Performance Metrics**


Northern Star regularly monitors its sustainability performance using a suite of internal metrics. Where appropriate, Northern Star has included intensity data per tonne of ore processed to enable comparisons, identify trends in the data over time and realise the true impact on our data as asset acquisitions, mergers and divestments are made.

The integrity of our sustainability performance information and data is checked through a combination of internal and external verification and assurance processes. Our operational and functional leaders are responsible for ensuring the accuracy, completeness and consistency of all information and data they report. Our environmental data is collated, analysed, verified and reported by environmental accounting firm, Greenbase. Greenbase also compiles the Performance Data Tables published on the Northern Star website. All material information and data that is publicly released by Northern Star is verified by our legal team prior to publication.

Northern Star has again sought third party Limited Assurance by Bureau Veritas Australia Pty Ltd of select information and data disclosures against the GRI Standards in this Report. Bureau Veritas’ Assurance Statement is provided in Appendix A.



Sunset at Thunderbox camp, Yandal Production Centre



**More on our website...**  
Additional data can be sourced from the FY23 Performance Data Tables published on the Northern Star website at [FY23 Performance Data Tables](#).

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Table 1 Key Sustainability Performance Metrics

Category	Material Risk	Sustainability Metric	FY23	FY22	FY21
Environment	Biodiversity, GHG Emissions, Climate Change, Waste and Water Management	<b>Net Zero Ambition for Emissions by 2050</b>			
		Total Scope 1 & 2 GHG emissions (t CO <sub>2</sub> -e)	1,202,359	1,163,635	1,133,906
		Scope 1 & 2 GHG emissions intensity (t CO <sub>2</sub> -e/tonne ore processed)	0.045	0.044	0.044
		Scope 3 GHG emissions (partial assessment) (t CO <sub>2</sub> -e)	642,935	378,203	-
		Electricity consumed from renewable sources (GJ) <sup>10</sup>	37,598	29,463	-
		2030 Emissions Reduction target	35% reduction on FY20 baseline		-
		<b>Responsible Environmental Stewardship</b>			
		Total regulator fines for environmental (US\$) <sup>9</sup>	600,000	-	-
		Rehabilitation completed per annum (ha) <sup>9</sup>	66.6	140.3	126.1
		Proportion of waste recycled/reused - excluding tailings or waste rock (t) <sup>9</sup>	5,938	5,131	5,254
		Total volume of fresh and other water withdrawn (ML)	52,531	46,574	45,748
		Total volume of water recycled/reused (ML)	14,039	15,970	13,406
		Total volume of water discharges (ML)	27,717	27,535	27,991
		Net volume of fresh and other water consumed (ML)	24,814	19,039	17,757
		Net water consumption efficiency (ML/tonne ore processed)	0.0009	0.0007	0.0007
Social	Employment Conditions & Opportunities	<b>Fostering Diversity &amp; Inclusion</b>			
		Our employee workforce (excluding contractors)	3,587	3,409	3,383
		Indigenous employment in Australia (%)	2.15	2.61	-
	Training & Development	Female employment (%)	23.1	23.1	24
		<b>Talent Management, Skills Development</b>			
		Number of Graduates, Undergraduates, Trainees, Vacation Students & Interns	247	326	138
	Community Support & Engagement	Number of Apprentices (including trade upgrades)	76	73	92
		Number of employees participated in leadership development training <sup>9</sup>	141	90	-
		<b>Managing Community Expectations and Demonstrating Contribution</b>			
		Total funds committed to community investment, and sponsorships (A\$M)	6.6	6.1	4.0
		% Local employment Pogo	59	73	-
		% Kalgoorlie workforce residential (exc Carosue Dam)	91	90	-
		<b>Supporting Local and Indigenous Businesses</b>			
		Procurement spend (A\$M):	3,014	2,643	-
		- Western Australia	2,200	1,972	-
		- Other Australia	400	298	-
	- Alaska	167	156	-	
	- Other	248	217	-	
	- Indigenous Spend	0.43	-	-	
	Safety Management & Risk Control	<b>Safety Management &amp; Risk Control</b>			
Lost Time Injury Frequency Rate <sup>12</sup> : Contractors		0.9	0.6	1.0	
Lost Time Injury Frequency Rate <sup>12</sup> : Employees		1.0	0.5	0.8	
Total Reportable Injury Frequency Rate <sup>12</sup> : Contractors		2.95	2.5	6.6	
Total Reportable Injury Frequency Rate <sup>12</sup> : Employees		3.45	1.5	4.7	
% close out of hazard identification events reported	99	94	100		
Compliance - Regulatory, Business, Standards	<b>Respecting Communities &amp; Resolving Issues</b>				
	Total grievances and complaints received	-	1	-	
	Proportion of grievances and complaints resolved <sup>11</sup>	1	-	-	
Number of sites with current Social Impact Assessment Reports	2	2	2		
Governance	Governance Structure & Ethical Conduct	<b>Demonstrating Ethical Behaviour</b>			
		Number of material Whistleblower complaints received	10	1	1
	Number of material Whistleblower complaints investigated	10	1	1	
	Business Continuity & Return on Equity	<b>Economic Contribution</b>			
		Dividends Paid (A\$M)	261	227	353
Gold sold (Moz)		1.56	1.56	1.60	
Total revenue (A\$M)	4,131	3,806	2,761		
Royalties and taxes paid to governments (A\$M)	99	90	91		

9. Bureau Veritas has not included this data as part of the FY23 limited assurance process.

10. Frequency Rate is calculated per 1,000,000 exposure hours

11. The original complaint lodged with NST in FY22 is now considered to be resolved, however the relocation program is forecast to be ongoing for the foreseeable future.

12. Relates specifically to the CDO solar farm, excludes grid generated power from renewable energy sources.



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# People Performance

# People Performance



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## FY23 Achievements

Our new Human Resources Information System (HRIS) was successfully implemented including onboarding, recruitment, employee details, payroll and compensation

82%

of our employees responded to our employee culture survey, with strong representation from all areas of our business

1,246

new employees joined the Northern Star team in FY23

## People Snapshot

3,587

Employees, excluding contractors<sup>13</sup>

5,961

Our global workforce, including contractors<sup>13</sup>

1,390

Workforce residential to Kalgoorlie<sup>14</sup>

23.1%

Female employment in our workforce<sup>14</sup>

247

Current Graduates, Undergraduates, Vacation Students, Trainees and Interns

76

Current Apprentices (including Trade Upgrades)

<sup>13.</sup> At 30 June 2023.  
<sup>14.</sup> Direct employees only, excludes contractors.



## Our Approach

To deliver our strategy Northern Star has a clear plan to attract, retain and support the best talent. We are clear on our joint and individual responsibility to deliver, improve and make Northern Star a place we are all proud and excited to work for. Our culture is critical to us, and a part of the reason people choose to work for us is to be part of that culture, contribute to it and benefit from it. Our Purpose and STARR Core Values are

well understood, and they guide our leaders and all our employees to create a consistent culture.



### More on our website...

An overview of our people performance is available at [People Performance](#)

## Our Workforce

The majority of our workforce are permanent full-time workers. Across our Operations 93% of our employees are employed on a permanent basis, 5% on a fixed term basis and only 2% on casual contracts.

Our rate of female employment reached 23.1%. Our age demographic remains similar to previous years and our

rate of residential employment has been maintained with 59% in our Pogo Operations in Alaska and 91% in Kalgoorlie, Western Australia.

Our new starter rate was 34.7% in FY23 compared to 42.2% in FY22, and our turnover rate was 27% in FY23 compared to 28.4% in FY22.

**Table 2** Employment Type By Gender<sup>16</sup> and Region at 30 June 2023

	Kalgoorlie			Yandal			Pogo			Other <sup>15</sup>			Total		
	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse
Full Time Permanent	1,297	434	15	600	127	7	553	50	-	114	78	-	2,564	689	22
Part Time Permanent	4	28	-	-	-	-	-	1	-	2	34	-	6	63	-
Full Time Fixed Term	76	35	1	35	3	-	11	4	-	7	6	-	129	48	1
Part Time Fixed Term	-	-	-	1	-	-	-	-	-	0	1	-	1	1	-
Long Term Leave	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Casual	28	25	-	2	-	-	5	-	-	1	2	-	36	27	-
<b>Total</b>	<b>1,405</b>	<b>522</b>	<b>16</b>	<b>638</b>	<b>130</b>	<b>7</b>	<b>569</b>	<b>55</b>	<b>-</b>	<b>124</b>	<b>121</b>	<b>-</b>	<b>2,736</b>	<b>828</b>	<b>23</b>
	1,943			775			624			245			3,587		

**Table 3** New Starters By Gender<sup>16</sup> and Region at 30 June 2023

	Kalgoorlie			Yandal			Pogo			Other <sup>15</sup>			Total		
	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse
New Starters	451	168	-	269	73	-	203	19	-	33	30	-	956	290	-
<b>Total</b>	<b>619</b>			<b>342</b>			<b>222</b>			<b>63</b>			<b>1,246</b>		

**Table 4** Turnover by Gender<sup>16</sup> and Region at 30 June 2023

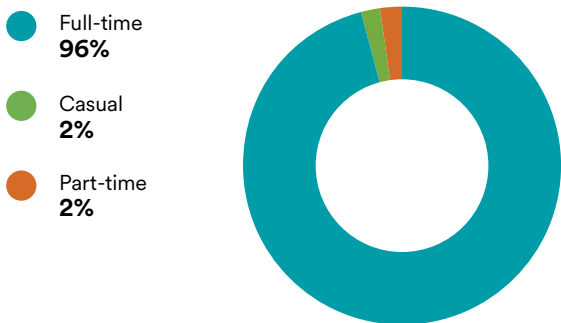
	Kalgoorlie			Yandal			Pogo			Other <sup>15</sup>			Total		
	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse	Male	Female	Gender Diverse
Turnover	361	115	3	202	42	-	175	16	-	25	30	-	763	203	3
<b>Total</b>	<b>479</b>			<b>244</b>			<b>191</b>			<b>55</b>			<b>969</b>		

15. Includes exploration and Perth office.

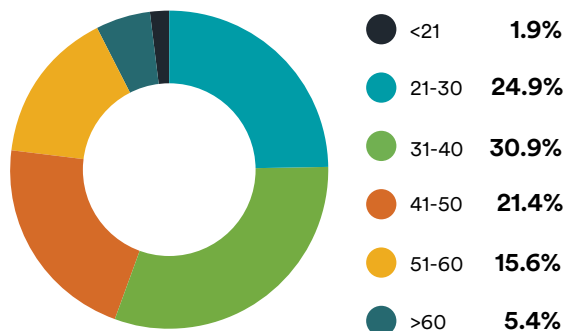
16. Gender diverse includes gender identities that demonstrate a diversity of expression beyond the binary framework

**Figure 8** Northern Star Workforce Summary, as at 30 June 2023

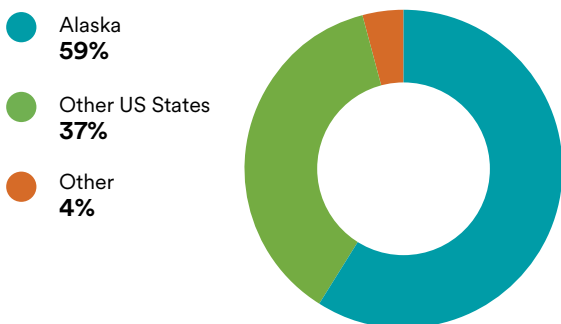
**Employees by employment type**



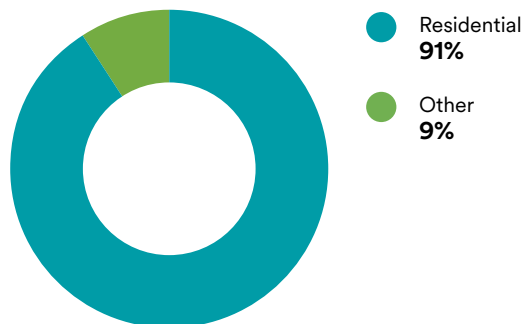
**Age demographics**



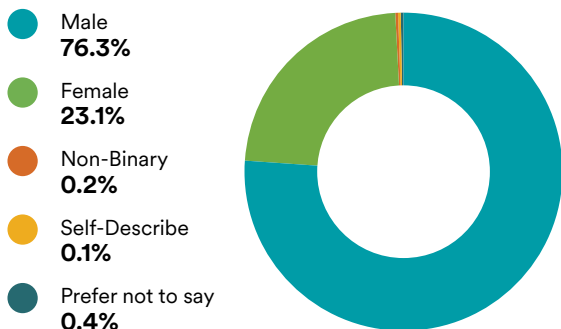
**Local employment - Pogo**



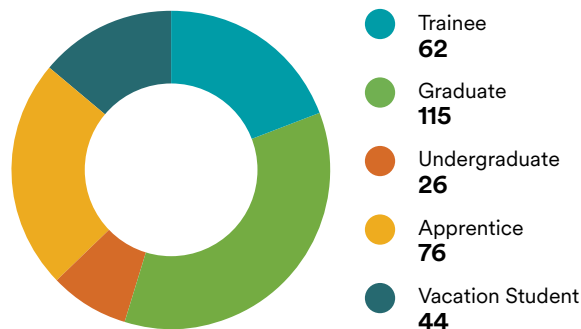
**Local employment - Kalgoorlie (excl. Carosue Dam)**



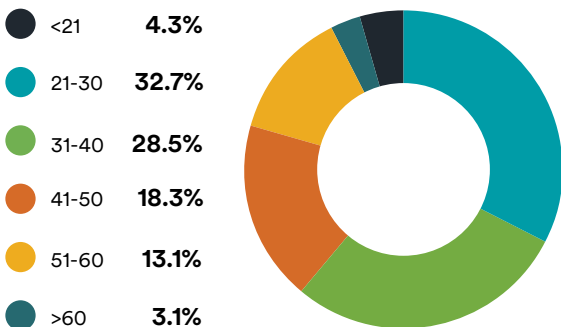
**Gender demographics**



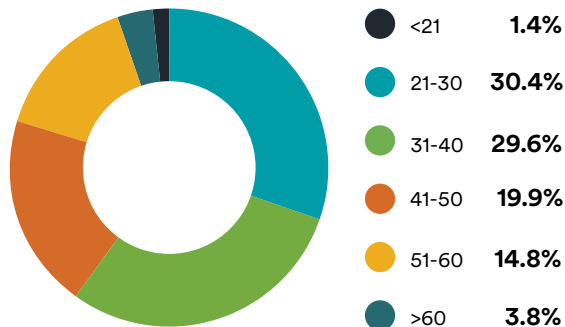
**Employee Development Pipeline**



**New Hires in FY22 by age demographic**



**Turnover in FY23 by age demographic**



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**Table 5** Employment Type By Age at 30 June 2023

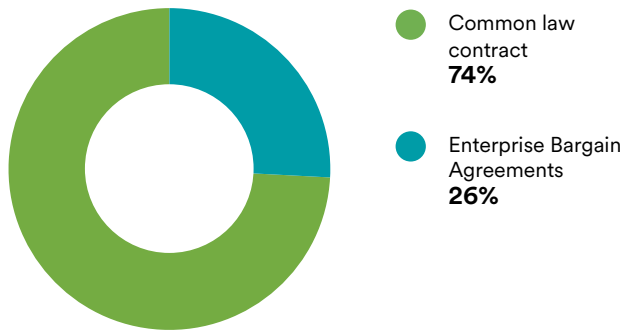
	<21	21-30	31-40	41-50	51-60	>60	Total
Full Time Permanent	43	759	1,022	724	543	184	3,275
Part Time Permanent	-	3	36	23	5	2	69
Full Time Fixed Term	24	102	31	13	6	2	178
Part Time Fixed Term	-	1	1	-	-	-	2
Long Term Leave	-	-	-	-	-	-	-
Casual	2	28	17	7	5	4	63
	69	893	1,107	767	559	192	3,587

**Freedom of Association**

In our Australian Operations, 781 employees (26%) of the workforce are covered by Enterprise Bargain Agreements, with the remaining 2,182 (74%) covered by common law contracts. Common law contracts are individual agreements between an employer and an employee, but incorporate any overriding statutory minimum requirements such as relevant awards.

Our contractor workforce comprises a majority of full-time workers, with work performed including, but not limited to, underground mining services and support, drilling services, camp services, logistics and haulage, and specialist mining, civil and shutdown support roles.

**Figure 9** GRI 2-30: % of Employees Covered by Collective Bargaining Agreements



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Amber Cameron, Site Administration Coordinator and Janine Greeves, Site Administrator, Thunderbox, Yandal Production Centre, Western Australia



## Culture Survey

Northern Star conducts culture surveys to better understand the experience and engagement of our workforce. Employee responses are collected anonymously by a third party.

In November 2022 we conducted our biannual culture survey. This year's response rate was 82% and our overall employee engagement score was 68%.

Our culture survey measures people's experience (what they see and hear) of the STARR Core Values, employee engagement, wellbeing, psychosocial risk factors and identifies how we can strengthen our culture. It helps prioritise the activities that may best support an inclusive, engaged and responsive work culture.

We were pleased to see uplift across some of our scores from the previous culture survey in 2021. Our greatest improvements were seen in our Teamwork, Accountability and Respect values.

We continue to strengthen our culture using the STARR Core Values. From the 2022 culture survey results, our sites developed and are implementing actions.

This process was led by our site General Managers with the support of their management teams to recognise and celebrate strengths, as well as address areas for improvement.

Areas of focus include:

- Mitigating risk of loss of, or harm to, our people. This area targets both attraction and retention and importantly, ensuring that we are providing a psychologically healthy and safe place to work.
- Continuing to grow Respect and Accountability in our workforce, through leadership development, recognition of positive behaviours and focussed activities to continue to grow a respectful workplace.

Northern Star's next culture survey is planned to be conducted in November 2024.

We aim to be able to reassess employee sentiment and engagement and see the effectiveness of the actions taken since the November 2022 culture survey.

**Figure 10** Strengths Identified in the November 2022 Culture Survey

82%

of our employees responded to the survey, with strong representation from all areas of our business

78%

of employees participating in the culture survey agreed that "People here think of safety first, for ourselves and our teams, and use systems processes and controls to stay safe"

87%

of our people agree with "I feel free to discuss work hazards and safety issues openly"

84%

of our people agree with "I look for ways to innovate and improve around here"

77%

of employees participating in the culture survey agreed "I am satisfied with the job security at Northern Star"

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## Development of our People

Our employees at Northern Star have multiple opportunities and avenues to develop their careers. Individual management and support is provided to employees by their line manager and confidential data is collected at both the individual and the group level to fully understand how people experience our culture and their role within it.

Currently, we gather data from our employees across their employment lifecycle, in addition to key annual milestones, as shown in Figure 11. This data informs how we respond to the immediate, medium and long-term needs of individual employees and the workforce as a whole.

**Figure 11** Northern Star Data Collation Points

### Employee Experience Check-ins

We have created an employee pulse check at key milestones in their first year asking about: role satisfaction onboarding experience, support and career opportunities. Employees rated their overall experience at Northern Star (out of 5):

**8 weeks: 3.8/5**  
**6 months: 3.6/5**  
**12 months: 3.7/5**

### Annual Performance Evaluation Program

To evaluate and understand current performance and development needs. This data then drives our development calendar and helps us to meet emerging needs of the Company. PEP's are used to support managers in developing their people and combined data is used to identify and develop training.

**94%**

**of employees were involved in Performance Evaluation Programs completed in FY23**



Michael Shaw, Process Technician – Leading Hand, Jundee, Yandal Production Centre, Western Australia

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## Employee Attraction, Retention & Engagement

Retaining our people is a key driver for our success. In a competitive and challenging labour market, we have expanded cultural, developmental and financial benefits to retain and attract employees through increased job satisfaction.

In FY23 we:

- Completed implementation of a modern Human Resources Information System further supporting our leaders and people.
- Promoted over 1,000 of our people internally, providing development and growth for our people whilst also retaining their talent and knowledge in the business.
- Had 44 vacation students, 26 undergraduates and 115 graduates work with our teams during FY23. This includes graduates enjoying the opportunity of being residential in Kalgoorlie. All our graduates undertake a detailed programme to ensure they have broad experience in different sites and leave the programme fully competent to take on their next role.

- Had 76 apprentices and employed 62 trainees. The trainees are in a variety of frontline operational roles, providing an increased mining talent pool and an opportunity for people to build new careers in mining.

With a continued focus on culture, development and providing a working environment that lives the STARR Core Values, Northern Star continued in FY23 to build our strength as a preferred employer.



### More on our website...

An overview of our employee attraction, retention and engagement programs and actions are available on our Company website at [People Performance](#)

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Jai Sauzier, Mining Technician, Thunderbox, Yandal Production Centre, Western Australia



## Gender Pay Gap Review

Northern Star undertakes periodic gender pay gap reviews as part of our standard remuneration review processes.

The comparison is done on like for like roles. Like for like roles have the same scope and area of expertise, e.g. safety managers at all sites.

The review scope includes the full remuneration review process (for example at commencement, at annual salary reviews, out-of-cycle pay reviews, and performance reviews).


No issues were identified. Further gender pay gap analysis will be undertaken in FY24.

## Diversity & Inclusion

In FY23, we implemented the following programs to increase awareness, support minority Groups and focus on challenging the status quo:

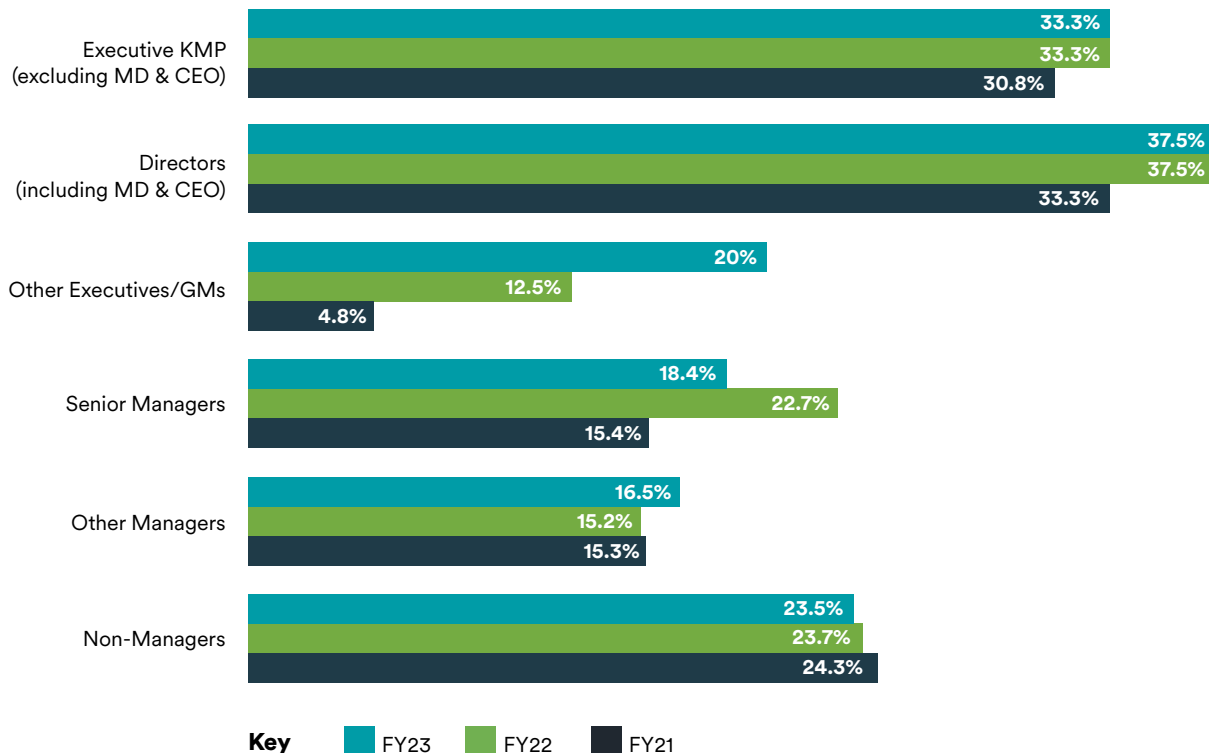
- Sponsored the Pride Professionals Mentoring Program for LGBTQIA+ individuals and allies, as well as the Kalgoorlie Boulder Pride Festival.
- Continued as major sponsors of AusIMM and WIMWA Women in Mining Leadership Conferences.
- Released a more inclusive range of PPE, including flexible styles to suit all body types.
- Continued uptake of paid parental leave by our Australian Operations.

- Launched a partnership with the Goldfields Aboriginal Business Chamber to deliver the “Stronger Business” program.



**More on our website...**  
Further information on our diversity and inclusion programs and actions are available on our Company website at [People Performance](#).

**Figure 12** Female Participation in Key Roles Within Northern Star



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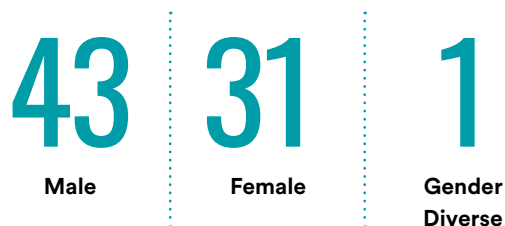
### Supporting Our People and Their Families

In FY23 we were very pleased that 31 female, 43 male and 1 gender diverse employees were able to use the benefit to spend time with their families and new children as part of our paid Parental Leave program. Of these 67% have returned to work.

Our Pogo Operation is also proud to have set a new standard and expanded its paid parental policies to help foster an environment where employees feel supported throughout their parenthood journey, regardless of gender.

The new gender-neutral paid parental leave policy, includes adoption and surrogacy support and up to 20 weeks of paid parental leave, plus return-to-work payments.

**Figure 13** Employees who took paid parental leave in FY23



**Table 6** Paid Parental Leave Metrics for FY23<sup>17</sup>

	Male	Female	Gender Diverse	Total
Entitled to Paid Parental Leave in FY23	1,445	504	22	1,971
Took Paid Parental Leave in FY23	43	31	1	75
Returned from Paid Parental Leave in FY23	36	14	-	50
Still on Paid Parental Leave at 30 June 2023	7	16	1	24
Did not return from Paid Parental Leave	-	1	-	1

17. GRI 401-3


### Opportunities & Development in Mining

Northern Star prides itself on investing in our people and the future of the mining industry.

We have created a number of entry pathways into our business, on permanent contracts, which can accommodate people from a diverse range of educational and industry backgrounds.

Northern Star is committed to building and maintaining long term and mutually beneficial relationships with

like-minded organisations to provide opportunities for a diverse range of people in our society.



**More on our website...**  
An overview of our employee opportunities and development programs are available on our website at [People Performance](#)



Left to right: Louis Gauthier, General Manager – Geological Services; Jess Wright, Senior Geologist – Growth; Jamie Rogers, General Manager – Discovery; Fatin Binti Mohamed Amin, Geologist – Discovery; Daniel Howe, Chief Geological Officer; Bianca Byrne, Geology Manager – Growth and Kathryn Poole, Senior Geologist – Resource

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## Employee Wellbeing

Northern Star is committed to supporting our people's safety and wellbeing both at work and at home. In our daily operations, we take a risk management approach to understanding the impacts of work on our people's mental health and wellbeing.

Through better understanding the psychosocial hazards and risk factors our people are exposed to most often, we aim to ensure our controls are effective and utilised. We have a variety of controls in place already, and through assessment and consultation endeavour to continuously improve them.

Our support of employee wellbeing includes but is not limited to traditional Employee Assistance Programs (EAP), GoldSTARR (which includes a wellbeing hub for employees, interactive toolboxes on stress, resilience and mindfulness, job demand and resources assessment, education) and a consistent calendar of programs on mental health and wellbeing across our business such as support for the Push Up Challenge.

We are also upskilling our leaders to understand the impacts of work on mental health, and how they can better manage mental health risk, and continue to grow our network of Mental Health First Aiders.



Travis Kennedy, Boilermaker and Alex Wiese, Apprentice Mechanical Fitter, Thunderbox, Yandal Production Centre, Western Australia



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# Safety Performance



# Safety Performance

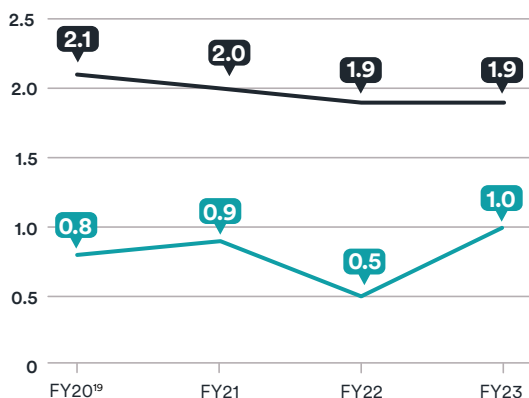


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## Safety Snapshot

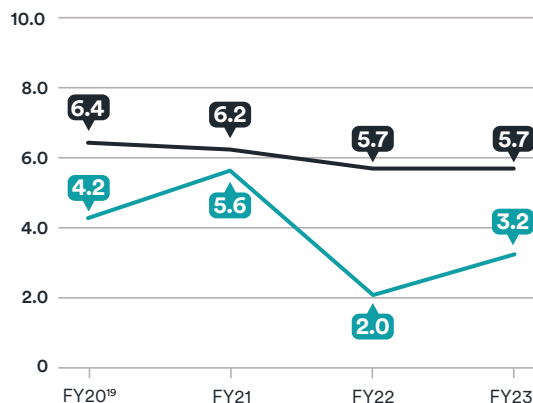
### Safety – LTIs

**LTIFR 1.0**



### Safety – LTIs + RWIs

**TRIFR<sup>18</sup> 3.2**



Key — Northern Star — Industry average<sup>20</sup>

## FY23 Achievements

### Critical Risk Management Program deployed across Australian Operations

**99%**

Percentage of hazards rectified (1,589 Hazard Identification Reports Closed out of 11,700 Hazard Identifications Reported)

**25,571**

Number of Active Field Leadership Interactions Reported

**6,923**

Number of Inspections Reported

**744**

Number of Risk Management Events Reported (e.g. risk assessments, alerts issued, change managements issued)

**1,679**

Critical Control Verifications completed across Australian Operations

18. Number of reportable injuries (Lost Time Injuries and Restricted Work Injuries) per million hours worked. Calculated on a 12-month rolling average.

19. Inclusion of historical legacy data from Saracen assets prior to the Merger has resulted in restatement of data prior to February 2021.

20. - FY23 Industry means the DMIRS Safety Performance in the Western Australian Mineral Industry – Accident and Injury Statistics 2020-21 Metalliferous total  
 - FY22 Industry means the DMIRS Safety Performance in the Western Australian Mineral Industry – Accident and Injury Statistics 2020-21 Metalliferous total  
 - FY21 Industry means the DMIRS Safety Performance in the Western Australian Mineral Industry – Accident and Injury Statistics 2019-20 Metalliferous total  
 - FY20 Industry means the DMIRS Safety Performance in the Western Australian Mineral Industry – Accident and Injury Statistics 2018-19 Metalliferous total



## Our Approach

At Northern Star, continuously improving the safety, health, and wellbeing of our workforce is our priority. This is reflected in our initiatives and programs during FY23.

Our Safety Management System, which comprises of 14 elements is aligned with continuous improvement models, applies to all employees, contractors and visitors to our Operations. It is displayed graphically in Figure 14 overleaf.



### More on our website...

An overview of our safety management system, critical risk standards, incident reporting and investigation systems, emergency and crisis management, and health and wellness programs and services is available on our Company website at [Safety Performance](#)



Cameron Albertini, Truck Operator, Kanowna Belle, Kalgoorlie Production Centre, Western Australia

## Leadership, Commitment & Policy

Leadership is key in a culture that prioritises safety. The Safety Leadership Training Program highlighted in our FY22 Sustainability Report is designed to ensure that safety principles are deeply embedded across all levels of our organisation.

This empowers leaders throughout our Company to advocate for safety, promote and communicate best practices, and reinforces our goal of ensuring a harm-free workplace for all our employees and contractors.

So far 52% of current leaders within Northern Star have completed our ongoing Safety Leadership Training Program, with training of other leaders continuing in FY24. The positive consequences have been acknowledged throughout our workforce.

## Objectives, Targets & Plans

During FY23 Northern Star developed a Principal Mining Hazard Management Manual in compliance with the requirements under the Western Australian *Work Health and Safety (WHS) (Mining) Regulations 2022* to develop a Principal Mining Hazard Management Plan.

Principal Mining Hazard Management Plans were developed for the following nine Principal Mining Hazards:

- Geotechnical structure instability.
- Hazardous energy.
- Confined space.
- Roads and other areas where mobile plant operate.
- Mine shafts and winding systems.

Through this program, we continue to aim to:

- Establish a solid basis for cultivating safety leadership skills.
- Enhance the overall performance of safety leaders throughout the Company.

The Safety Leadership Training Program's implementation across our North American and Australian sites reflects our determination to continuously improve an organisation-wide culture of safety. The enthusiastic response and wide-ranging participation from our employees is a testament to the program's value and effectiveness.

Northern Star remains committed to fostering safety leadership across the Company.

- Hazardous substances.
- Explosives.
- Fire and explosion.
- Inrush of any substance.

The Principal Mining Hazard Management Plans form part of the Company's Mine Safety Management System and involves identification of all aspects of risk control relevant to the principal mining hazards present at Company mines, projects and exploration sites. The Principal Mining Hazard Management Plans are being integrated into our wider risk management system.

Figure 14 Health and Safety Strategic Plan FY24 Update

Principal Mining Hazard Management Plans including risk assessments/ bow tie analysis are implemented across all Australian Operations.

**OBJECTIVES, TARGETS & PLANS**

Provide adequate resources to support the mine safety management system implementation in line with Western Australian legislative reform.

**ACCOUNTABILITY, RESPONSIBILITY & RESOURCES**

Embed and further enhance the foundation of safety leadership to improve the overall effectiveness of safety leaders across the Company.

**LEADERSHIP, COMMITMENT & POLICY**

Conduct an evaluation of safety data management performance, incident reporting and site-specific hazard control verifications, generate review outputs, and deliver improvement opportunities.

**REVIEW & IMPROVEMENT**

Develop and deploy an internal auditing and compliance framework to audit health and safety performance data, improve reporting information, and develop targeted strategic initiatives.

**MONITORING, MEASUREMENT & EVALUATION**

Lead and collaborate with contract owners to embed the safety and health elements of the contractor management framework.

**PROCUREMENT & CONTRACTOR MANAGEMENT**

Develop and implement an automated and integrated reporting framework to verify the accuracy of health and safety data analytics

**RECORDS & INFORMATION MANAGEMENT**



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## Training, Competency & Awareness

In FY23, Northern Star prioritised a comprehensive training program, reinforcing our commitment to ensuring high standards of safety, health, and performance among our employees and contractors.

We recognise the crucial role that training plays in developing a knowledgeable and competent workforce, and in maintaining a safe and efficient work environment. The training program for FY23 was focused on these key areas:

- Health and Safety Training aligning to WHS reform: The primary objective of this training was to educate our employees and contractors on the best practices

to identify, prevent, and manage workplace hazards and the applicable changes to WHS legislation commencing in Western Australia on 31 March 2022.

- Technical Skill Development: These training sessions were targeted at enhancing the technical skills of our workforce, which ranged from hazard identification and incident investigation to active field leadership.

In total, Northern Star recorded over 113,373 hours of safety training in FY23 across leaders and other levels in the business.

Northern Star continuously reviews and enhances our training programs as part of our Safety Management System processes.

**Figure 15** Safety Training Completed in FY23 by Category



## Communication & Consultation

Our safety engagement strategies continue to focus on effective communication and consultation. We place value on our workforce, understanding that they are central to our success and focus on alignment with our STARR Core Values.

In FY23, over 350 safety meetings were reported across Northern Star in our INX Leading Indicators, with 39 of these being Health & Safety Representative Committee Meetings. Health and Safety Committee Meetings are comprised of workforce representatives who have completed their HSR training as required by legislation and received an Appointment outlining their responsibilities from key management personnel at Northern Star. All actions arising from the meetings are registered in INX InControl for completion.

Over the past year, we have rolled out several programs designed to continue to cultivate a culture that embraces inclusivity, respect, and collective advancement including significantly enriching our Health and Safety communication platform.

Our Health and Safety Representatives (HSRs)<sup>21</sup> play a key role in this, as representatives of work groups by both being part of the group and in communicating and embedding health and safety matters.

### Highlight: Our Valuable Health & Safety Representatives

HSR Miguel Cepeda Cortes (Geology) said that “If I find any discrepancies in the way we do a specific task, I never hesitate to report it and start a follow up”.

By working with Supervisors and crew members our HSR’s help to identify solutions to improve our safety standards.

Miguel says that a key part of his role as a HSR is to engage in safety conversations with his team members, and other departments when needed.

“I also like to lead by example, by following safety procedures and making sure we have everything we need to perform the task safely”



21. Referred to as Miners Representatives in Pogo Operations, Alaska.

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Jesse Lewis, Mechanical  
Apprentice Fitter, Kanowna Belle,  
Kalgoorlie Production Centre,  
Western Australia



## Hazard Identification & Risk Management

Understanding the human factor at the heart of our Operations, we've instituted ten Critical Risk Standards designed to identify, assess, and manage potential risks that could impact the wellbeing of our workforce or the operational efficacy of our business. The scope of the Critical Risk Standards is broader than the legislated nine Principal Mining Hazards which are the subject of the Principal Mining Hazard Management Plans introduced at Northern Star. The risk assessment work in relation to the nine Principal Mining Hazards is well underway consistent with legislative requirements.

The core of this strategy is to anticipate and mitigate risks before they escalate by focusing on the individual needs and safety of each person within our organisation.

As we progress our initiative, we aim to embed our Mine Safety Management System further and execute a robust auditing schedule.

This includes:

- Finalising the implementation of the Mine Safety Management System across all sites.
- Embedding Critical Risk Standards throughout the Company.
- Enhancing the quality of key tools used company wide.
- Promoting safety leadership amongst our management teams.
- Encouraging our workforce to remove themselves from hazardous workplace conditions or tasks where there is a risk to health and safety, and ensuring these hazards are reported through our management systems to be rectified.

We have a systematic, risk-based, and person-centred approach to safety management and leadership.



Ben Jindrich, Emergency Response Coordinator and Jayme Te Puke, Occupational Health Nurse, Jundee, Yandal Production Centre, Western Australia

## Emergency Preparedness & Response

Our Emergency Response Teams (ERT) are a crucial part of our peoples' safety and our business continuity plan. In addition to our employees' ongoing training requirements, the teams "compete" against other mine response teams at annual underground and surface emergency response competitions.

These competitions comprise a range of controlled scenarios where members are tested on all levels of skill. Scenarios put teams to the test in key areas, such as: how they work as a team; how their captains perform under stressful, evolving situations; overall team safety; and how they use the speciality equipment they are trained on to respond to a range of different potential incidents.

Northern Star promotes the active participation of our teams in these competitions as it provides controlled environments where team members can further enhance their skills while undergoing stress-inoculation. These competitions also provide exposure to industry leading technology, and experts in the emergency response community.

In FY23 Northern Star was represented at multiple inter-company and inter-site emergency response competitions held in Australia and North America.

- A combined ERT of members from both Kalgoorlie Operations and KCGM Operations represented the Company at the annual MERC (Mining Emergency Rescue Competition) in Perth in November 2022. Northern Star was again a platinum sponsor of the event.
- Thunderbox Operations, Kalgoorlie Operations and KCGM ERT represented the Company in Kalgoorlie at both the Western Australian Chamber of Minerals and Energy (CME) Underground Mine Emergency Response Competition (UMERC) in November 2022 and the CME Surface Mine Emergency Response Competition (SMERC) in May 2023.
- Pogo ERT represented the Company at the Central Mines Rescue Competition in Kellogg, Idaho, US in May 2023.



### More on our website...

An overview of our emergency and crisis management processes is available on our Company website at [Safety Performance](#)



## Highlight: Northern Star Resources Emergency Response Teams excel at the 2023 Surface Mine Emergency Response Competition

Emergency response teams are comprised of personnel who volunteer their time to ensure our sites are adequately resourced to respond if a safety incident should occur. These teams are a critical component of our incident de-escalation strategies, and play a vital role in reacting to an incident. Their training and thorough processes and inspections of hazardous environments and mitigation controls are pivotal in ensuring that our people are safe in the event of an incident.

When required, an emergency response team will have to turn out to an event and act quickly and decisively to maintain control of unpredictable situations to minimise damage and injury. Practicing these processes is operationally critical to business continuity and the health and safety of our people.

In May 2023, Emergency Response Teams from our Operations competed at the 2023 CME Surface Mine Emergency Response Competition in Kalgoorlie Western Australia.

The competition is designed to promote, encourage and improve mine site emergency response capabilities through providing ERTs with realistic scenarios to test the skills they have developed in training, receive feedback from experienced personnel in each emergency response discipline, and identify opportunities on how to improve their overall capabilities and skillset.

Our ERT members not only get the opportunity to focus on refining their emergency response skills in the lead-up to the competition, but they get exposure to many different scenarios beyond what the Company may be able to provide during on-site training days, as well as being able to network with many ERT volunteers and professionals from across the industry.

All of the teams performances were fantastic over the competition, with Kalgoorlie Operations, KCGM Operations & Thunderbox Operations earning several awards at the presentation night:

### 1st Place:

- Rope Rescue – KCGM Operations
- Team Safety - KCGM Operations
- Overall BA Skills – Thunderbox Operations
- Best New Team - Thunderbox Operations
- Best New Captain – Thunderbox Operations
- Incident Management Scenario – Leith Evans

### 2nd Place:

- Overall Best Team 2nd Place – KCGM Operations
- Hazardous Materials - KCGM Operations
- First Aid - KCGM Operations
- Fire Fighting - KCGM Operations
- Confined Space – Thunderbox Operations
- Team Skills – Thunderbox Operations
- Vehicle Extraction – KCGM Operations
- Best New Captain – KCGM Operations
- Overall BA Skills – KCGM Operations
- Best New Team – Kalgoorlie Operations

### 3rd Place:

- Overall Best Team 3rd Place – Thunderbox Operations
- Rope Rescue – Thunderbox Operations
- Theory – Kalgoorlie Operations
- Team Skills – KCGM Operations
- Overall BA Skills – Kalgoorlie Operations



KCGM Operations Emergency Response Team awarded first place for Team Safety



Thunderbox Operations Emergency Response Team awarded first place for Best New Team

## Health & Wellness

We prioritise the health of our workforce as much as their safety. Comprehensive health surveillance is a critical component of our ongoing commitment to maintaining our high standards of occupational health and safety.

In FY23, the Northern Star occupational hygiene monitoring program team conducted a total of 2,967 samples across our employees and contractors.

Through these assessments, we can identify and quantify potential hazards, like chemical, physical, and biological agents, that our employees and contractors may be exposed to during their work activities. Sampling is conducted to:

- Assess the potential risks associated with exposure to hazardous substances or conditions.
- Ensure compliance with legal and regulatory requirements.
- Evaluate the effectiveness of existing control measures.
- Identify areas where additional preventive measures are needed.
- Create a healthier and safer work environment for our employees and contractors.

Our focus areas for FY23 included the monitoring of airborne contaminants, noise exposure, and ergonomic risks, with a particular emphasis on the underground operations sector. The sampling results obtained help us create a more comprehensive action plan.

Some of the key steps in this plan include:

- Implementing additional engineering controls to minimise exposure to potential hazards such as airborne contaminants.
- Introducing more efficient personal protective equipment (PPE) to safeguard employees from high noise levels.
- Conducting ergonomic assessments and introducing interventions to decrease the potential of musculoskeletal disorders.

We will continue our sampling program in FY24, enhancing our methods and broadening our focus areas as necessary, to continue to strive for a safer workplace.

**Table 7** Number of Occupational Hygiene Samples Collected During Our FY23 Program

Contaminant	FY23	FY22
Ammonia	12	18
Calcium Oxide	4	1
Carbon Disulphide	-	17
Carbon Monoxide	29	74
Diesel Particulate Matter	325	316
Fibre	13	11
Gold Fumes	13	27
Hydrogen Cyanide	18	41
Inhalable Dust and Metals	570	639
Mercury Vapour	45	266
Nitrogen Dioxide	270	154
Noise	947	901
Respirable Dust and Silica	685	748
Sulphur Dioxide	-	1
Volatile Organic Compounds	-	5
Welding Fume and Metals	36	26
	<b>2,967</b>	<b>3,245<sup>22</sup></b>

22. FY22 numbers were higher than usual due to a number of targeted occupational hygiene sampling programs that were undertaken during that period.

## Procurement & Contractor Management

Effective procurement and contractor engagement and management are critical aspects of safety in our Operations.

Our initiative initially focused on aligning departmental expectations with workplace health and safety legislative requirements, culminating in the creation of a robust 5-tier safety contractor management framework.

This framework establishes clear safety guidelines and protocols for managing contractor relationships and work processes, and prioritising safety and compliance.

## Monitoring, Measurement & Evaluation

Our consistent approach to managing safety has been instrumental in maintaining a low rate of injuries among our workforce. The monitoring, measurement and evaluation of the safety management system data is critical to ensure the continued positive performance and in turn the overall safety of our people. When variances are identified, priority is given to these to ensure all safety practices align to our internal standards.

One key action undertaken has been providing comprehensive training to our contractors on our safety standards and protocols and encouraging a more robust dialogue between our staff and contractors about best safety practices. We believe that open communication promotes the shared understanding of safety norms.

To support our organisation-wide contractor management and improve effective communication, we've also developed a contractor management intranet page. This digital platform serves as a hub for the necessary resources, updates, and contact points, aiding in streamlining contractor communication across the Company.

As we move into FY24, our objective is to continue to embed the framework across Northern Star with full integration scheduled for completion by Q3 FY24.

The development of our 5-tier safety contractor management framework is also a significant part of this strategy. By defining clear safety protocols for our contractors and integrating them more seamlessly into our Operations, we expect to see an overall reduction in incident rates.

Our plan is to continue to monitor incident and near miss rates closely, assessing the effectiveness of our implemented measures, and refining our approach, as necessary. We aim to instil a culture where safety norms are not just guidelines, but are ingrained into our everyday Operations, regardless of whether the work is carried out by employees or contractors. Our goal is to decrease our incident rates, reflecting a uniformly safe work environment across Northern Star.

**Table 8** Work Related Injury Frequency Rates for Employees and Non-Employees<sup>23</sup>

		FY23	FY22	FY21
<b>Exposure Hours</b>		<b>14,695,424</b>	<b>13,101,903</b>	<b>13,648,657</b>
Total Workforce	LTIFR	1.0	0.5	0.9
	TRIFR <sup>24</sup>	3.2	2.0	5.6
<b>Exposure Hours (Employees)</b>		<b>6,909,806</b>	<b>5,908,185</b>	<b>6,559,841</b>
Employees	LTIFR	1.0	0.5	0.8
	TRIFR <sup>24</sup>	3.5	1.5	4.7
<b>Exposure Hours (Contractors)</b>		<b>7,785,619</b>	<b>7,193,719</b>	<b>7,088,816</b>
Contractors	LTIFR	0.9	0.6	1.0
	TRIFR <sup>24</sup>	3.0	2.5	6.6

23. In accordance with GRI 403-9.

24. Number of reportable injuries (Lost Time Injuries and Restricted Work Injuries) per million hours worked. Calculated on a 12-month rolling average.



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# Social Performance & Economic Contribution



# Social Performance & Economic Contribution



## FY23 Achievements

Recognising and celebrating the rich history of Williamstown and its residents through a collaborative Heritage Project launched at the Museum of the Goldfields, Kalgoorlie

**\$261<sup>M</sup>**

total dividend provided in FY23

**\$4.07<sup>B</sup>**

total economic contribution in FY23

## Social Snapshot

**\$655.9<sup>M</sup>**

Spent within our local procurement regions

**73%**

of total Group procurement spend within Western Australia

**\$6.6<sup>M</sup>**

Community investment commitments in FY23

**0**

community or heritage related incidents

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## Our Social Performance

Northern Star's Purpose is to generate superior returns for our shareholders, while providing positive benefits for our stakeholders through operational effectiveness, exploration and active portfolio management.

This is achieved by understanding existing and emerging community and stakeholder expectations, the needs of the communities around our Operations, and the impacts of our Operations. This allows Northern Star to make informed decisions on the opportunities to minimise potentially adverse negative impacts and maximise positive social and economic benefits.

We value and seek long-term and trust-based relationships with all our local and broader stakeholder communities; relationships where stakeholders are respected, understood, and better off for having Northern Star operate nearby.

## Indigenous Peoples Statement

Northern Star recognises the traditional rights of Indigenous peoples, and their enduring right to maintain their cultures and customs, and meaningful access to their traditional lands.

We acknowledge that Indigenous peoples are some of the most marginalised peoples around the world, enduring forms of social exclusion and are often under-represented in political decision-making processes.

We consider Indigenous peoples to be key stakeholders and that to thrive as a business, we need to gain trust and maintain these enduring trust-based relationships. This makes the engagement of Indigenous peoples critically important for Northern Star, to better understand

## Heritage Management

Northern Star understands that physical and spiritual cultural heritage is critically important to Indigenous and First Nations peoples and provides a connection between their past and contemporary existence.

Northern Star is currently strengthening our processes for managing Aboriginal cultural heritage across all Australian Operations in partnership with Traditional Owners and native title parties, aligned with best practice. This process is integrated into Northern Star's wider risk management and planning processes.

Our overarching process for managing heritage risks during FY23:

- Northern Star's cross-functional team consists of Legal, Social Performance, Environment, Geology and Mining who are responsible for working between project and production teams and Traditional Owners to understand where a planned activity may adversely impact a heritage site, in advance of the ground disturbance occurring.
- If this engagement process indicates that an area of heritage value may be adversely impacted, representatives of the team further engage with the

Development and delivery of Northern Star's social performance function is overseen by the ESS Committee and the Chief Legal Officer & Company Secretary (reporting to the Managing Director & CEO and to the Board), supported by the ESG engagement, legal, business development and social performance teams in the corporate office and on our sites.



### More on our website...

Further information on our social performance and economic contribution programs, impact assessments, complaints and grievance processes, impacts and expectations monitoring are available on our website at [Social Performance](#)

Indigenous peoples' enduring and unique connections to their traditional lands and waters, and how we as a business impact that connection.



### More on our website...

Further information our engagement approach, commitment to FPIC, agreement making and respect for Indigenous Lands are available on our website at [Social Performance](#)

relevant Traditional Owners and the broader project team to evaluate means of avoiding the impact, acknowledging and incorporating the views of Traditional Owners.

- If the adverse impacts to the heritage site or area cannot be avoided, and the Traditional Owners do not consent to the activity proceeding, then Northern Star will not proceed with the activity in the manner proposed.

Figure 16 Heritage Incidents

Heritage related incidents

Heritage related infringements

Cost of heritage related infringements (\$)



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Williamstown Heritage Project Exhibition, Museum of the Goldfields, Kalgoorlie, Western Australia

### Highlight: Northern Star's Williamstown Relocation Program & Heritage Project

Since November 2021, Northern Star has been implementing a voluntary relocation program to financially assist residents and landowners to relocate from Williamstown. The relocation program was initiated in response to a petition and community concern about the impact of nearby mining activity, with Northern Star undertaking extensive consultation involving over 60 households from April to October 2021 to understand community sentiment and explore potential solutions. There has been a long history of interaction between Williamstown residents and previous owners of KCGM over the impacts of mining activity on Williamstown over several decades. When the program was launched in November 2021, Williamstown comprised approximately 80 properties, located close to the Mt Charlotte underground mine that forms part of the KCGM Operations.

Over the past two years, community response to the relocation program (based on our guiding principles of procedural fairness and respectful engagement) has been overwhelmingly positive and over 70% of residents and property owners have been financially compensated and supported to relocate from Williamstown. The program provides a long-term resolution for Williamstown residents and addresses community concerns in a proactive way. In March 2023, to recognise and celebrate the rich history of Williamstown and its residents, a collaborative Heritage Project was launched at the Museum of the Goldfields in Kalgoorlie. The project involved Williamstown residents, past and present, and captured photographs and stories of residents and the Williamstown area.

The project included an exhibition at the Museum of the Goldfields, which explored the history of Williamstown extending over 130 years, including street names and prominent places, as well as stories contributed by

residents. Photographs of Williamstown residents and the area taken by a local photographer from the start of the relocation program in 2021 to 2023 were a highlight of the exhibition.

The Heritage Project was officially opened by City of Kalgoorlie-Boulder Mayor John Bowler in March 2023, attended by Williamstown residents, local partners, and distinguished guests. A schedule of public programming at Museum of the Goldfields followed, including engagement activities with East Kalgoorlie Primary School students and presentations from the Eastern Goldfields History Society.

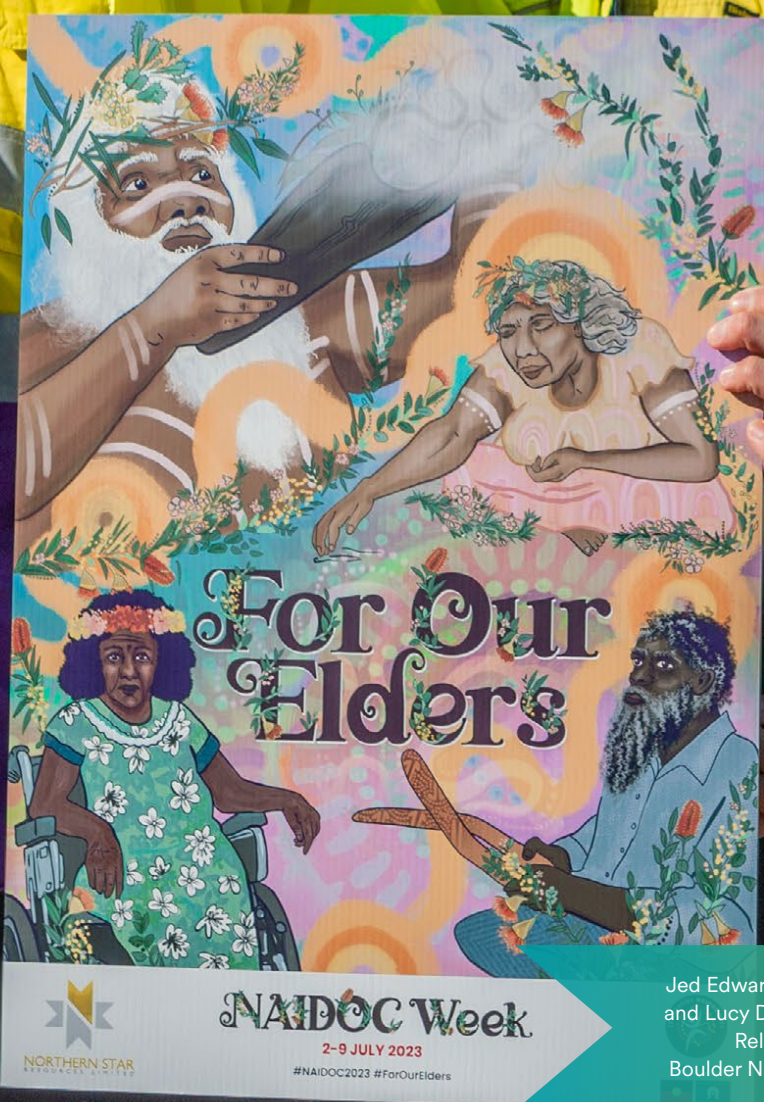
Since January 2022, Northern Star has also implemented a management and monitoring program to oversee the respectful demolition of properties and commitment to revegetate vacant blocks in the Williamstown area. In line with the recommendations of an independent social impact assessment on the program, Northern Star is pleased to continue with the program beyond 2023.

The program has provided residents wishing to relocate from Williamstown with the opportunity, financial capacity and non-financial support to do so, significantly improving quality of life outcomes. Northern Star has changed lives for the better for the former residents of Williamstown.

Northern Star's financial assistance package includes the purchase of properties at appropriate prices, removalist and conveyancing fees, and a contribution towards duty payable on new homes elsewhere. Other support offered by Northern Star includes long settlement dates, additional time to remove chattels (for example, solar panels, hot water systems, entire kitchens) after settlement, and change-in-circumstances assistance for residents and their families requiring broader assistance relocating from Williamstown.



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 **NAIDOC Week**  
2-9 JULY 2023  
#NAIDOC2023 #ForOurElders

Jed Edwards (Environmental Advisor)  
and Lucy Dorotich (Senior Indigenous  
Relations Advisor), Kalgoorlie-  
Boulder NAIDOC Week Parade 2023

NAIDOC Week  
2-9 JULY 2023  
#ForOurElders



## Community Investment

Northern Star strategically invests in our communities through financial and in-kind means.

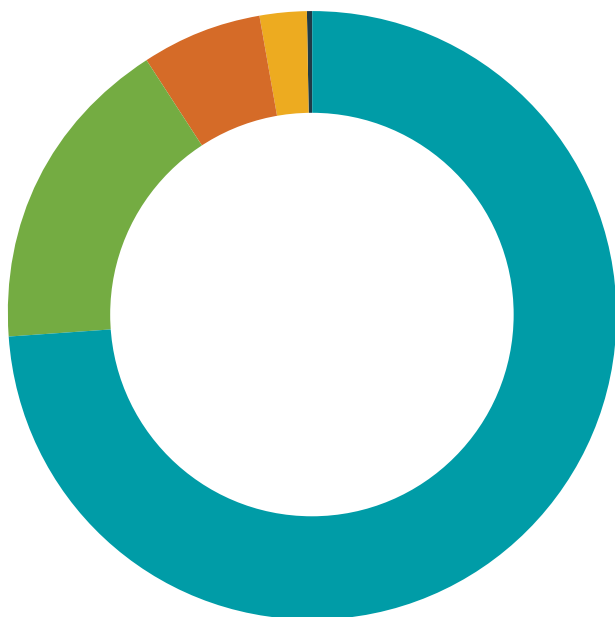
Our ties to our communities are strengthened by our employees, contractors and their families who live and work in our operating areas, and through our relationships with local governments, education bodies, NGOs and charities within these areas.

Northern Star has committed to several long-term community partnerships across Australia and Alaska,

designed to provide regions and communities with long-term benefits for current and future generations.

**More on our website...**  
 Further information on our community investment programs are available on our website at [Social Performance](#)

Figure 17 Economic Contribution



● Goods & Services Payments <sup>25</sup>	<b>\$3,008M</b>
● Total Employee Costs	<b>\$696M</b>
● Dividends Provided to Shareholders	<b>\$261M</b>
● Royalties	<b>\$98.7M</b>
● Community Investment Commitments <sup>26</sup>	<b>\$6.6M</b>

### Total Economic Value Add

**\$4.07B**

## Community Investment Commitments

Northern Star's Donations and Sponsorship Guidelines are designed to assist applicants in understanding our criteria for donations and sponsorships which is applied consistently across all Operations, and form part of our Community Investment Commitment processes.

Alignment with the UN SDGs is the primary gateway criteria for all donations and sponsorship applications at all Operations, and where possible we seek to achieve a balance on an annual basis, taking into account the local and regional improvements proposed by applications in the following focus areas:

- Community & Inclusion
- Health & Wellness
- Environment
- Indigenous Advancement
- Education & Development

Supporting our employees' charitable fundraising initiatives is also a central part of our donations and

sponsorship policy. Northern Star supports employee nominated causes or fundraising activities that are directly connected to a registered charity or approved community-based initiative through a donation matching program in line with Policy requirements.

We are also proud to support our employees' charity efforts with paid Volunteering Leave under the Company's leave policy.

Over the past 12 months, Northern Star has supported partnerships with over 50 organisations to deliver sustainable development outcomes within the communities we operate.

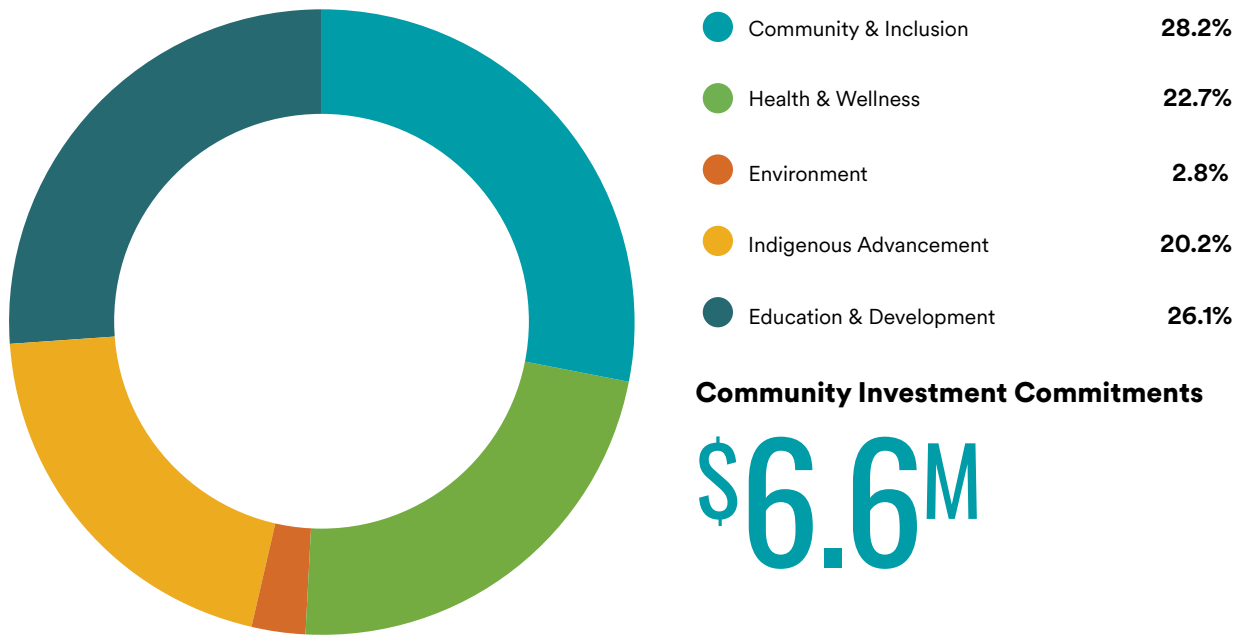
**More on our website...**  
 Further information on our partnerships is available on Figure 19 and on our website at [Social Performance](#)

25. Goods and Services payments excludes payments made as part of our Donations and Sponsorship processes, and already accounted for under Community Investment Commitments

26. Total community investment expenditure was \$6.1M at 30 June 2023 based on invoices paid. Remaining commitments are pending invoice receipt or payment from accruals after the 30 June 2023.

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**Figure 18** Community Investment Committed Funds



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Sunset view from the Mount Charlotte Reservoir over our KCGM Operations and the City of Kalgoorlie-Boulder'

**Figure 19** Examples of some of our new FY23 Donations and Sponsorship Commitments: Multi-year or >\$100k (in addition to our existing partnerships)



**Foodbank WA**

Supporting Foodbank to facilitate the demands within the Goldfields for food relief, and supporting Foodbank in the Kimberley with flood relief support



**Goldfields Giants Basketball Incorporate**

Naming Rights, On Court and Community Partner supporting both the men's and women's national basketball league teams



**University of Alaska – Loader Donation**

In-kind donation of an underground loader to the UAF Community & Technical College, along with financial support



**Wiluna Remote Community School – Bus Donation**

Support for the school's bus operations



**Perth Children's Hospital – Coconut Oil Trial**

Strategic partnership with KEMH to fund research of three pilot trials of topical coconut oil therapy in children with eczema, childhood burns and oral mucositis



**The Push-Up Challenge**

An initiative to raise awareness and engage people in mental health through physical activity, connection and education. Raising valuable funds for mental health



**Clontarf**

Improving the education, discipline, life skills, self-esteem and employment prospects of young Aboriginal and Torres Strait Islander men



**Goldfields Women's Refuge Expansion**

Providing more crisis accommodation to women, with or without children under 18 years of age, and Domestic Violence Outreach Services



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**City of Kalgoorlie-Boulder**

Funding of various of the City’s initiatives to provide community connection opportunities



**Perth Symphony Orchestra**

Partnership program to bring an educational programme to Kalgoorlie and hold community concerts



**East Kalgoorlie Primary School**

Supporting the school resources to provide nutritional and medical support for students and establishing a STEM teaching program



**Goldfields Aboriginal Business Chamber**

Supporting local Aboriginal business by increasing commercial visibility and providing greater opportunities in the Goldfields region



**WASMA & Curtin University**

Supporting WASMA as a major partner as well as supporting careers fairs, alumni and Focus on Mining Camps



**Breast Cancer Detection Center of Alaska**

Mobile Mammography Unit - BCDC is dedicated to providing quality breast cancer screening services for all women in Alaska



**Kalgoorlie-Boulder Urban Landcare Group**

KBULG is a community-based conservation and environment organisation. In FY23 with the support of Northern Star, KBULG celebrated their 50 Year anniversary



**Shooting Stars**

Shooting Stars empowers Aboriginal girls and women across Western and South Australia to make informed choices about their education and employment journey



### Highlight: Kalgoorlie-Boulder Urban Landcare Group – Celebrating 50 years of environmental stewardship in the Goldfields



Kim Eckert, CEO, Kalgoorlie-Boulder Urban Landcare Group collecting native seeds

Northern Star has been a long-term community partner of Kalgoorlie-Boulder Urban Landcare Group (KBULG), a community-based conservation and environment organisation. Operating from their community nursery in Karlkurla Park and through community outreach activities, KBULG is the Goldfields’ most active environmental group, focusing on community action and education.

The organisation works collaboratively with Goldfields schools and community organisations to facilitate free excursion and incursions addressing a range of environment and sustainability topics, both current and historic.

In FY23 with the support of Northern Star, KBULG celebrated their 50 Year anniversary, celebrating five decades of promoting and leading environmental education and sustainability initiatives in the Goldfields. Annually, Northern Star works in partnership with KBULG to support community tree planting days, Clean Up Australia Day celebrations, and outreach activities with local schools.

### Highlight: The Push-Up Challenge to support mental health & physical fitness

The Push-Up Challenge is Australia’s largest mental health and fitness initiative with over 215,000 participants in FY23. The challenge provides the opportunity for participants to fundraise for Lifeline, Movember or the “The Push For Better Foundation” by seeking sponsorship of push ups and other daily physical challenges.

Northern Star was proud to once again be a “Dollar Match Day” Partner for this program that our workforce and our

communities are so passionate about. The purpose of a “Dollar Match Day” is to create momentum for donations and create greater visibility for the Push Up Challenge and the invaluable services it supports.

In FY23 we took our commitment one step further, by supporting not one but two “Dollar Match Days” with a contribution of \$100,000 for each day.



Northern Star’s Board supporting the Push Up Challenge

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## Highlight: Clontarf - Enhancing employment pathways and school engagement for young Aboriginal and Torres Strait Islander men in the Goldfields

The Clontarf Foundation exists to improve the education, discipline, life skills, self-esteem, and employment prospects of young Aboriginal and Torres Strait Islander men and by doing so equips them to participate more meaningfully in society.

Northern Star has worked in partnership with the Clontarf Foundation in the Goldfields region for many years, supporting the foundation's Kalgoorlie Academy based at Eastern Goldfields College and Kalgoorlie-Boulder Community High School. The Kalgoorlie Academy provides an important school engagement mechanism for many young Aboriginal and Torres Strait Islander men who would otherwise not attend or have very low school attendance.

Academy activities are delivered with the focus areas

of Education, Leadership, Employment, Wellbeing and Sport. An important component of the partnership is the development of a strong relationship between the students, academy staff, and the partners and communities who support the program.

Over the last 12 months, Northern Star has worked in partnership with the Foundation to support work-placement opportunities for senior students, employment forums, and site visits to assist Clontarf students to transition from school to employment, training, or higher education. Over the next four years, we look forward to continuing to work in partnership with the Clontarf Foundation to improve outcomes for young Aboriginal and Torres Strait Islander men, their families, and communities in the Goldfields.



Kalgoorlie Clontarf Academy students touring the NSMS Training Centre

## Highlight: Underground loader donated to University of Alaska Fairbanks Technical Program

A donated underground loader from Northern Star's Pogo Mine will provide University of Alaska Fairbanks students an opportunity to train on the same modern equipment they are likely to encounter in their future jobs. The loader made the 130-mile journey from the Pogo Mine to the program's headquarters at the Hutchison Centre in Fairbanks in mid-April. More than a dozen students walked alongside the 52-ton loader as it crawled through the parking lot to the program's garage.

"This loader is a perfect fit for students participating in our entry-level course introducing the truck and heavy mechanics industry," said Ray Ludwig, advisor and assistant professor for the diesel/heavy equipment program at the UAF Community and Technical College. "We teach our students everything from safety and operations to basic and advanced electrical systems, as well as multiplexing, the self-sustaining internet system inside a truck." Ludwig said the loader covers most aspects of the one-year certificate program's curriculum in a single piece of equipment. The diesel/heavy equipment program courses focus on teaching students how to work on diesel engines, electrical and air systems, engine electronics, hydraulics, transmissions, undercarriages, steering and final drives. Students also complete courses in basic equipment and truck operation. Graduates leave the program with solid entry-level knowledge to start as either an entry-level mechanic or an apprentice.

Currently three program participants are apprentices at our Pogo Mine. The Pogo apprentices' participation in the class is part of a partnership with UAF that expands the one-year program and stretches it to two years, allowing students to put their classwork to practical use. The arrangement also enhances the program's curriculum by bringing on-the-job perspective into the classroom.

"This partnership provides the opportunity to educate our future potential workforce and arm them with critical skills needed to successfully progress within the industry," said Wendie MacNaughton, External Affairs Manager at Pogo Mine. "By donating a piece of equipment that is actually being used in the field, we are able to open the doors for learning within our local community and broaden awareness about the technical needs of the mining industry as one of Alaska's key economic drivers."





## Supply Chain

Northern Star's Operations are supported by a centralised procurement function coordinating a global supply chain of over 4,000 suppliers to ensure business continuity in both Australia and North America.

We believe our supply chain is fundamental to our goal of sustainably sourcing goods and services in line with the UN SDGs and we prioritise the use of local suppliers where possible, while ensuring our supply chain risks are mitigated through strong regional relationships and ongoing analysis of our own procurement and sustainability goals.

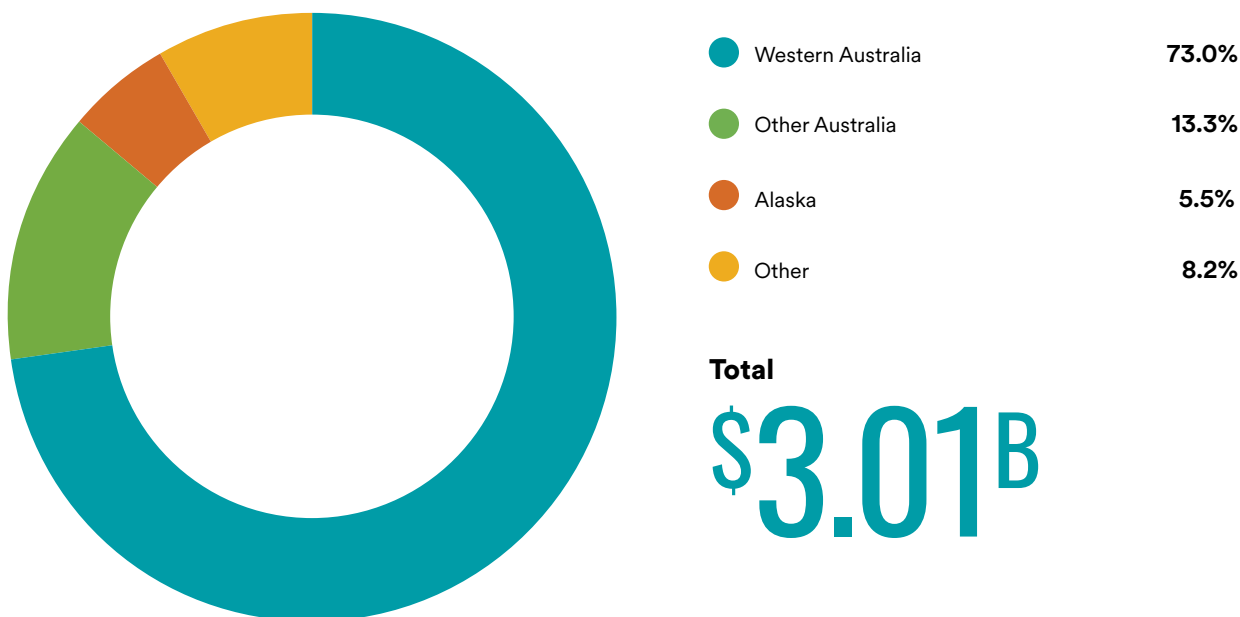
Northern Star aims to partner with suppliers who contribute to our goals of sustainable development and the protection of human rights.



### More on our website...

Further information on our supply chain, including local, Indigenous, and global procurement programs are available on our website at [Social Performance](#)

**Figure 20** Procurement Spend by Location of Supplier



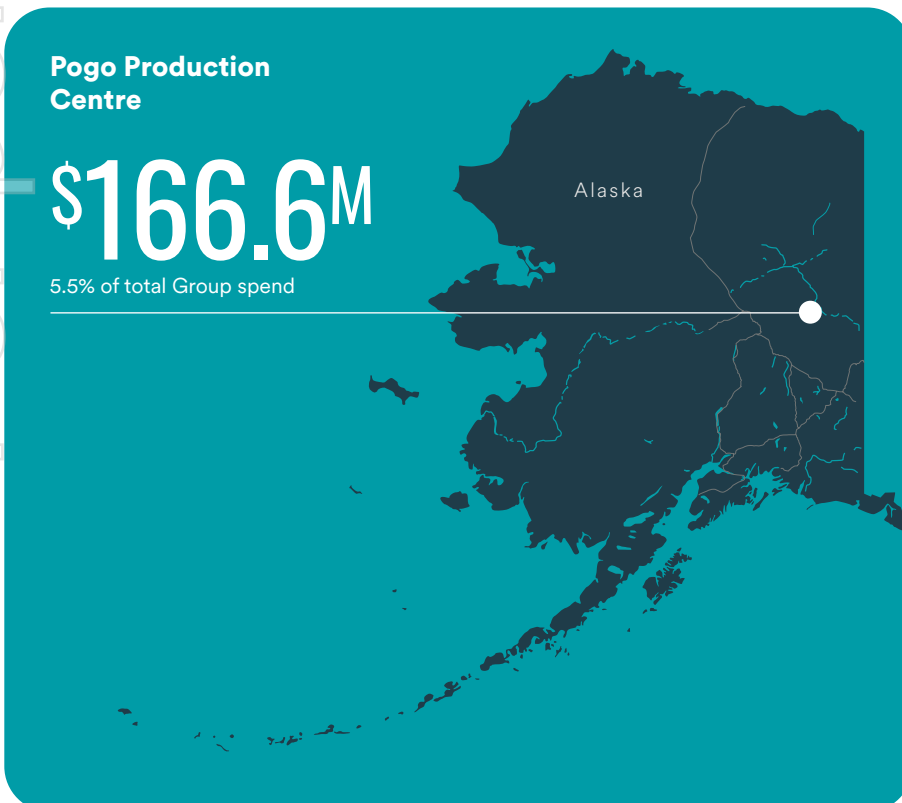
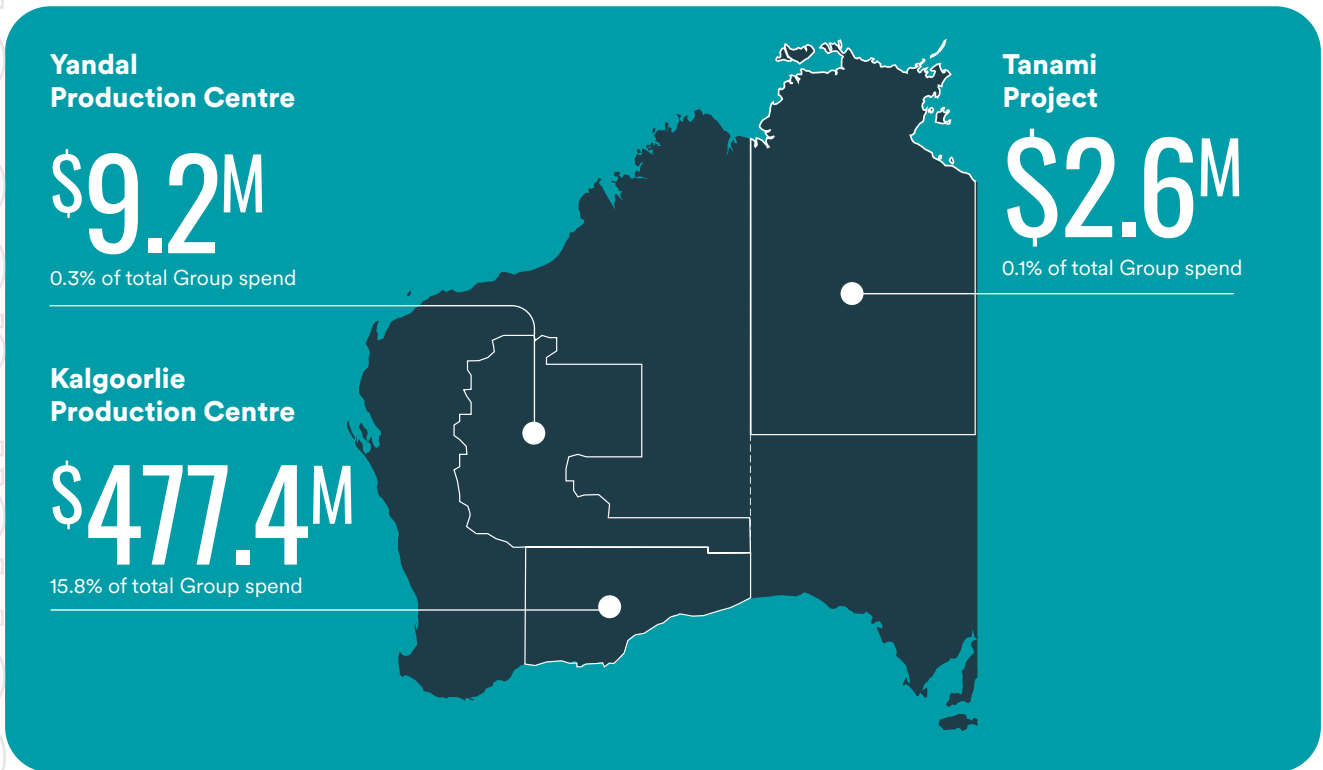
Loading ore on a triple road train to haul to the run of mine stockpile and crushing station, Jundee, Yandal Production Centre, Western Australia

## Local Procurement

Supporting suppliers and businesses within the regions in which we operate continues to be a focus for Northern Star. We consistently consider the positive impact of supporting local businesses when assessing procurement opportunities to ensure we maximise opportunities within our local supply chains.

Our local procurement areas (as shown in Figure 21) are centered around our Kalgoorlie, Yandal and Pogo Production Centres and our major Tanami exploration region.

**Figure 21** Local Procurement by Region



### Total Local Procurement

**\$655.9M**  
 22% of total Group spend in local procurement regions

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## **Indigenous Procurement**

Northern Star recognises the value Indigenous businesses create within our supply chain, as well as the immense benefits they generate for Aboriginal and Torres Strait Islander peoples, communities, and local economies.

Promoting and encouraging Indigenous business through procurement and capacity building is also a significant means of supporting the Traditional Owners on whose land we are privileged to operate.

As a Company, Northern Star is committed to the establishment of sustainable supply contracts to the value of \$20 million per annum with Indigenous businesses by end of FY24.

Northern Star defines an Indigenous business in line with the Government of Western Australia's Aboriginal Procurement Policy and the State's accepted definition and accreditation of an Indigenous business.

This commitment is reflected in our Company's key performance indicators for the FY22 long term incentives granted to the leadership team.

Across all Australian Operations, our team is creating procurement contract opportunities for Traditional Owner businesses and local Indigenous businesses.

This includes:

- understanding Indigenous business capabilities and capacity, and how we may assist local Indigenous businesses and Traditional Owners businesses to grow in partnership with Northern Star.
- identifying and removing barriers to participation in our supply chain, and actively facilitating long-term, sustainable contract opportunities

We engage in both direct and indirect procurement with Indigenous businesses. Direct procurement is goods or services procured directly by Northern Star from an Indigenous business.

Indirect procurement is goods or services procured by other Northern Star suppliers from Indigenous businesses to assist with works they have been engaged by Northern Star to deliver.

Our verification processes have been developed to ensure that our Indigenous procurement performance data is able to be assured by an independent external third party and that our expenditure is supporting accredited Indigenous businesses.

### **Highlight: Goldfields Aboriginal Business Chamber – 'Stronger Business' partnership helps Aboriginal businesses in the Goldfields to grow**

In FY23, Northern Star launched a major three-year partnership with the Goldfields Aboriginal Business Chamber (GABC) to financially support the growth of Aboriginal businesses across the Goldfields.

Northern Star is proud to be working in partnership with the GABC to deliver the 'Stronger Business' Program over the next three years in the Goldfields. Launched in 2023, this partnership has enabled GABC to engage a 'Stronger Business' Coordinator, and to host regular networking and development workshops for Aboriginal businesses in the Goldfields.

GABC has developed the dedicated program as a culturally safe capability building program with real opportunities for engagement and procurement. It also expands the capabilities and offerings currently provided by GABC to support over 85% of the Aboriginal business sector within the Goldfields region.

GABC is honoured to partner with Northern Star to support the Aboriginal business sector and communities. GABC believes that by working together, GABC and Northern Star can provide effective Aboriginal-led solutions that are grounded in Aboriginal knowledge and respect for cultural values.

The partnership is very important to Northern Star, further strengthening the capabilities of Aboriginal businesses in the Goldfields region.

This partnership is central to helping us to achieve our goal, creating strong economic and community development outcomes for communities across the Goldfields.





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Travis Tucker, Tucker Dust & Diesel, accredited Supply Nation supplier, providing plant and equipment hire services to KCGM Operations, Kalgoorlie Production Centre, Western Australia

[tuckerequipment.com.au](http://tuckerequipment.com.au)



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VARIABLE SPEED DRIVE

MASTER S.E.R.  
CONTROL CUBICLE

# Climate Change



# Climate Change



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## FY23 Achievements

Entered into a long-term Power Purchase Agreement with Zenith Energy for renewable energy at Jundee

Completed the development of our climate-related financial quantification model

Continued to invest in initiatives aligned with our targeted 35% Emissions Reduction by 2030

## Climate Targets Snapshot

# 35%

Target absolute **Scope 1 and Scope 2 Emissions Reduction by 2030** (1 July 2020 baseline: 931 kt CO<sub>2</sub>-e).

Demonstrate tangible, sustainable **Scope 1 and Scope 2 carbon Emissions Reductions of**

# 50<sub>kt</sub> CO<sub>2</sub>-e

between 1 July 2021 and 30 June 2024, where 1 July 2021 represents business as usual baseline levels.

Demonstrate tangible, sustainable **Scope 1 and Scope 2 carbon Emissions Reductions of**

# 100<sub>kt</sub> CO<sub>2</sub>-e

between 1 July 2021 and 30 June 2025, where 1 July 2021 represents business as usual baseline levels (includes 50 kt CO<sub>2</sub>-e by 30 June 2024).

Demonstrate tangible, sustainable **Scope 1 and Scope 2 carbon Emissions Reductions of**

# 150<sub>kt</sub> CO<sub>2</sub>-e

between 1 July 2021 and 30 June 2026, where 1 July 2021 represents business as usual baseline levels (includes 50 kt CO<sub>2</sub>-e by 30 June 2024 and 50 kt CO<sub>2</sub>-e by 30 June 2025).

Demonstrate tangible, sustainable **Scope 1 and Scope 2 carbon Emissions Reductions of**

# 200<sub>kt</sub> CO<sub>2</sub>-e

between 1 July 2021 and 30 June 2027, where 1 July 2021 represents business as usual baseline levels (includes 50 kt CO<sub>2</sub>-e by 30 June 2024, 50 kt CO<sub>2</sub>-e by 30 June 2025, and 50 kt CO<sub>2</sub>-e by 30 June 2026).

## Climate Change Commitment

Northern Star remains committed to the Paris Agreement and a Net Zero carbon future, on a 1.5°C pathway.



### More on our website...

An overview of our climate change scenario analysis work, including our approach to determining our climate change risks, opportunities, and decarbonisation strategy is available on our Company website at [Climate Change](#).

## Our Planned Pathway to 2030

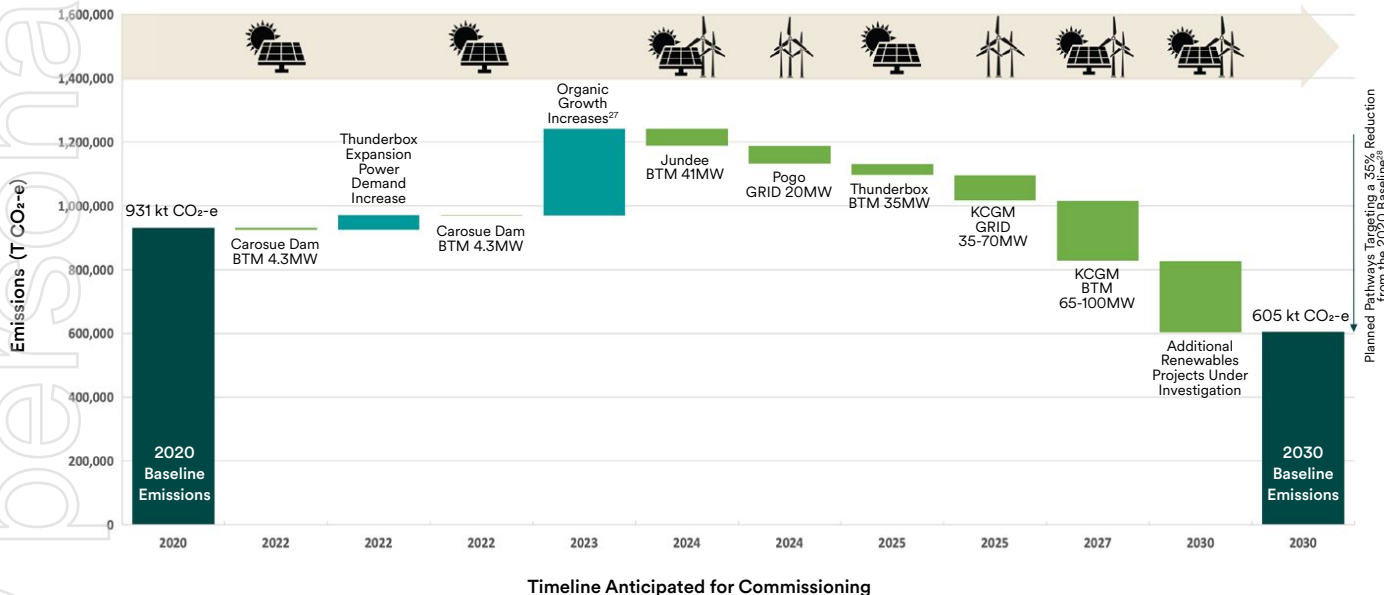
A continued shift to renewables is critical in targeting 35% Emissions Reduction by 2030 and will remain an ongoing focus beyond 2030, as we increase our use of renewable energy and turn to electrification in replacing our mobile fleet to achieve our 2050 Net Zero Ambition.

Further replacement of purchased and self-generated power supplies with renewables must be done in a way that reduces costs and maintains security of supply. In turn, lower power costs should result in lower operational expenditure, longer asset life and more sustainable Operations.

Integrating current and future renewables and storage technology is essential to maintain momentum in reduction of Scope 1 and Scope 2 Emissions, and greater efficiencies in our Operations.

Northern Star is targeting 35% Emissions Reduction to reduce Scope 1 and Scope 2 Emissions by 35% by 2030. This would achieve a reduction in greenhouse gas emissions from our baseline (1 July 2020) of 931kt CO<sub>2</sub>-e down to approximately 590 kt CO<sub>2</sub>-e.

Figure 22 Northern Star’s Planned Pathways targeting 35% Emissions Reduction by 2030



## Progressing our Decarbonisation Strategy

Northern Star is targeting a reduction in its Scope 1 and 2 Emissions by 35% (from a 1 July 2020 baseline of 931 kt CO<sub>2</sub>-e) by 2030, on the way to Net Zero operational emissions by 2050. This is central to all business and strategic planning, with increased efficiencies and Emissions Reduction incorporated into decision-making integral to all current Operations, future projects and business development.

As generated and purchased electricity accounts for 72% of Northern Star’s greenhouse gas emissions (FY20 Baseline), this is a key focus area for reducing our Scope 1 and Scope 2 Emissions.

On 22 June 2023 Northern Star announced the Board approval of the KCGM mill expansion which is proposed to increase the capacity of the Fimiston Processing Plant from 13 Mtpa to 27 Mtpa. Part of this expansion will also

27. Emissions intensity (total emissions generated per tonne of ore processed) was maintained at 0.045 t CO<sub>2</sub>-e/t even though we experienced an increased depth at which we were recovering material, mill expansion at Thunderbox Operations, commencement of Otto Bore and Orelia, expansion of Mt Charlotte and increased material movement at KCGM Operations which produced more waste.  
 28. This planned pathway takes into account existing organic growth increases that have occurred within Northern Star since the 2020 baseline was originally determined. The overall planned reduction is therefore anticipated to be greater than 326k t CO<sub>2</sub>-e in order to progress towards our original target of a 35% reduction in emissions from our 2020 baseline year.



involve an upgrade to the existing 33kV network and the intention is to provide for infrastructure upgrades to introduce renewable energy.

This knowledge (and the long mine life at KCGM Operations in particular) enables Northern Star to focus on large-scale multi-decade renewable projects to replace reliance on carbon intensive energy sources, using known, existing technology to target the 2030 Emissions Reduction.

Northern Star also announced on 26 June 2023 that it has entered into a long-term Power Purchase Agreement (PPA) with Zenith Energy for supply of electricity to the Jundee Operations incorporating 40 MW of wind and solar generation. Jundee is planned to have wind, solar and battery installed and integrated into the existing gas power station network.

The renewable generation planned includes 24 MW of wind, 16.9 MWp of solar, and 12 MW / 13.4 MWh of battery energy storage. This is intended to provide approximately 56% of Jundee mine site's power (based on current modelling, refer to Figure 22).

In addition to the projects already announced, Northern Star are continuing to investigate other initiatives including, but not limited to:

- Optimisation of our existing onsite thermal power generation assets to reduce greenhouse gas emissions.
- New renewable energy projects in the future at Porphyry, Thunderbox and KCGM.
- Expansion of existing renewable energy facilities at Carosue Dam.
- Investing in research into dynamic charging technology for heavy duty battery electric mining vehicles in both surface and underground applications.

Measures to reduce Northern Star's reliance on fossil fuels used for electricity generation include increasing control over use of renewables, including wind and solar. Energy storage options form part of this solution from both a maximisation of the renewable input and system integration aspect.

It is crucial for Northern Star that the commercial grid power continues to increase its renewable energy content and reduce the amount of carbon intensive fossil fuels used for generation.

**More on our website...**  
Additional data can be sourced from our [ASX announcements](#) located on our website.

### Climate Change Governance

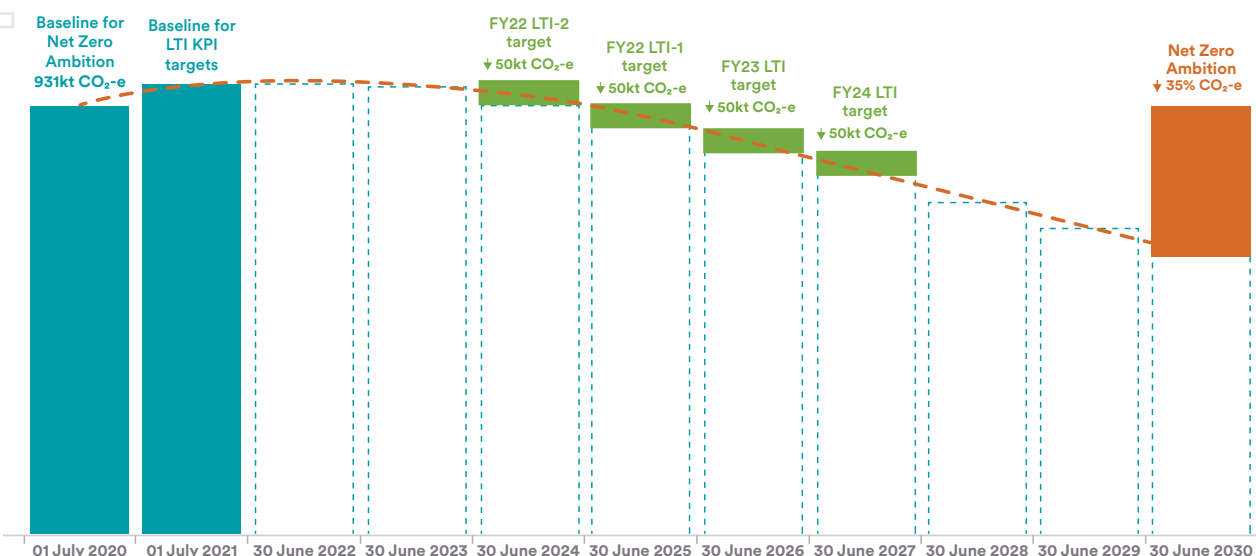
Northern Star's Board has oversight of the physical and transitional risks posed by climate change, assisted by the ESS Committee's review of environmental and social performance risks, and climate change related risks, and the Audit & Risk Committee's review of the Company wide risk register.

Our commitment to demonstrating leadership around our planned decarbonisation pathway is further shown in our adoption of climate-related remuneration KPI's as outlined

in Figure 23 below, and in our Remuneration Report in our 2023 Annual Report.

**More on our website...**  
The Company's climate change-related governance structure and our Climate Change Policy is available on our Company website at [Climate Change](#)

**Figure 23** Northern Star's Scope 1 & 2 Emissions Reduction Targets to 2030 (against relative baselines)



**Key** ■ Group Scope 1 & 2 Emissions profile □ Targeted Group Scope 1 & 2 Emissions Reduction Profile ■ LTI KPI targeted Emissions Reduction (CO<sub>2</sub>-e) ■ Net Zero Ambition targeted Emissions Reduction (CO<sub>2</sub>-e) - - - Indicative progress towards Net Zero Ambition

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### TCFD Alignment

Northern Star is committed to understanding how both the physical impacts of climate change and the transition to low carbon operations might affect our business.

Northern Star has disclosed its alignment with TCFD recommendations since 2019. We have provided information on our identified climate-related risks and opportunities, detailed our scenario analysis work and our approach to operational resilience in light of potential climate impacts.

In FY23 we have continued our TCFD Recommendations alignment and progressed our financial quantification modelling of key climate risks to estimate potential financial impacts and guide decisions.



#### More on our website...

An overview of our approach to determining our climate change risks, opportunities, scenario analysis work and our approach to operational resilience considering potential climate change impacts is available on our Company website at [Climate Change](#)

**Figure 24** Our Phased Alignment with TCFD Recommendations<sup>29</sup>

Metrics & Targets	Risk Management	Strategy	Governance
The metrics and targets are used to assess and manage relevant climate-related risks and opportunities where such information is material	How the organisation identifies, assesses, and manages climate-related risks	Actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material	The organisation's governance around climate-related risks and opportunities
<b>FY23 Commitments Satisfied:</b> Ongoing disclosure of progress against targets	<b>FY23 Commitments Satisfied:</b> Reviews of risks and mitigating controls in accordance with Risk Management Standard	<b>FY23 Commitments Satisfied:</b> Completed quantitative modelling of key climate risks to estimate financial impacts and guide quantification actions	<b>FY23 Commitments Satisfied:</b> Continued oversight of meeting TCFD recommendations
<b>Planned Action (1-5 years):</b> Ongoing disclosure of progress against targets, and consideration of future metrics and targets	<b>Planned Action (1-5 years):</b> Ongoing reviews of climate-related risks and controls	<b>Planned Action (1-5 years):</b> Integrate implications of scenario analysis into long term strategic planning	<b>Planned Action (1-5 years):</b> Ongoing oversight of governance of climate-related risks and opportunities

<sup>29</sup> Taskforce on Climate Related Financial Disclosures, 2017.



Ernie Carstens, Health & Safety Manager, Kanowna Belle, Kalgoorlie Production Centre, Western Australia

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### Financial Quantification Modelling

In FY23 Northern Star engaged Foresight Consulting Group (FCG) to assist with the development of a climate risk financial quantification model, designed to assist the business to better understand potential financial impacts that climate-related risks could have on the Company’s operational effectiveness and financial position.

FCG indicated that Northern Star’s quantitative climate risk model represents a step forward within the mining industry for assessing the potential financial impacts of climate change, with approaches to date being mostly limited to qualitative scenario-based climate risk and opportunity assessments.

With increasing expectations from stakeholders for more detailed disclosures, and as Northern Star seeks ways to better understand and manage climate-related risks, the quantitative climate risk model provides a valuable tool for understanding and providing greater transparency on potential climate-related financial impact on Northern Star.

More importantly, it also provides our leadership and management teams with useful climate risk intelligence to help guide our response to the challenges of transitioning to a Net Zero economy and our changing climate.

The quantitative climate risk model was developed over four stages:

- The model logic was developed including the causal and mathematical relationships between risks and opportunities and their potential financial impacts.
- Climate scenarios were selected that represent the range of potential future climate states.
- Data was collected for Northern Star’s assets and the climate scenarios including climate parameter and carbon price projections.
- The quantitative climate risk model was developed, and the financial impact modelled using the data collected.

The modelling work was undertaken on four priority climate-related risks that were identified as part of Northern Star’s ongoing climate-related risk and opportunity assessment processes. These four risks comprised:

- Physical Risk: Water Security
- Physical Risk: Extreme Temperature
- Physical Risk: Extreme Rainfall and Flooding
- Transitional Risk: Emission Management

The development of the model was an extensive process involving engagement of key personnel throughout Northern Star, data gathering and validation both internally and externally, development of mining value chain mapping applicable to all Operations, development and testing of the model logic, and integration of business, financial and climate scenario processes.



Native vegetation surrounding Jundee camp, Yandal Production Centre, Western Australia

**Table 9** Scenarios Modelled in the Northern Star Climate-Related Risk Financial Quantification

<b>High emissions RCP 8.5</b>	<ul style="list-style-type: none"> <li>• Used to assess the potential impacts of unmitigated climate change.</li> <li>• High atmospheric concentration of GHGs aligned to global warming of between 3°C and 5.4°C by 2100</li> </ul>
<b>Moderate emissions Below 2°C &amp; RCP 4.5</b>	<ul style="list-style-type: none"> <li>• Used to assess the impacts of a moderate transition to a low carbon economy and moderate degree of climate change.</li> <li>• Policies are introduced immediately and become more stringent with time with net zero emissions achieved by 2070. Aligned to a 50% chance of keeping global warming below 2°C</li> </ul>
<b>Low emissions Divergent Net Zero</b>	<ul style="list-style-type: none"> <li>• Used to assess the impacts of a rapid transition to a low carbon economy.</li> <li>• Divergent policies introduced across sectors with a quick phase-out of fossil fuels and net zero achieved by 2050 at high costs. Aligned to a global warming of 1.5°C.</li> </ul>

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## Scenario Alignment

The quantitative model assessed risks for two transition scenarios and two physical scenarios. These were the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCPs) and the Network for Greening the Financial System (NGFS) scenarios.

For the purpose of modelling financial impacts in totality (physical and transition combined) NGFS and IPCC RCP scenario were aligned.

- Divergent Net Zero is a transition scenario developed by the NGFS. The scenario reaches Net Zero by 2050 but with higher costs due to divergent policies introduced across sectors and a quicker phase out of fossil fuels. The modelling indicates that this scenario would have a negative financial impact on the business by 2050 due to the scenario requiring sudden and early cessation of diesel use, significant and very high carbon price imposition, and the difficulty of being

able to source technologies and equipment in the short term. This scenario has a low probability and was used to stress test a theoretical worst case for Northern Star.

- Below 2°C and RCP 4.5 are the scenarios most closely aligned to Northern Star's ambition for Net Zero by 2050, our decarbonisation pathway and our alignment with the intent of the Paris Agreement. These scenarios both had an overall positive impact on our financial models.
- RCP 8.5 is the least desirable climate scenario where global temperatures increase significantly due to ineffective or delayed actions to combat greenhouse gas emissions reductions and sequestration of carbon. This scenario only had a very minor negative impact on the business by 2050 due largely to the existing resilience built into our Operations.

## Scenario Findings

Emissions management was found to have the most material financial impact across Northern Star's assets. The model demonstrated that with the implementation of Northern Star's planned pathways targeting 35% Emissions Reduction in Scope 1 and 2 Emissions by 2030, the financial risk is not only mitigated but is estimated to have a considerable positive financial benefit through costs savings made from decarbonisation intervention measures.

Physical risks were estimated to have a relatively lesser financial impact across Northern Star's assets, with potential impact being most prominent when ore processing is disrupted, as opposed to interruptions to physical mining activities. This is predominately due to the existing mine planning and engineering controls that

Northern Star already has in place, which mitigate the potential financial impact.

Extreme rainfall and flooding were found to be the most financially significant physical risk, with potential financial impacts arising due to disruptions to the supply of critical reagents and ore to the processing plants. While these interruptions would typically be acute in nature (and may or may not occur within the life of an asset), they could result in deferred revenue under certain conditions.

Northern Star will continue to work through the recommendations arising from the financial quantification modelling, with the model now being integrated into our business processes for ongoing financial climate-risk related strategy and planning.

## Climate Related Risks and Opportunities

Climate related risks and opportunities are discussed regularly as part of the standing agenda of the ESS Committee meetings. During the year the ESS Committee and Audit and Risk Committee review ESS and climate related risks and opportunities as part of the standard corporate risk review processes.

The ESS Committee also completes an annual ESS strategy review and an annual ESS benchmarking review. Both include the consideration of Northern Star's responses to climate related risks and opportunities.



### More on our website...

An overview of our approach to determining and ongoing analysis of our climate change risks and opportunities is available on our Company website at [Climate Change](#).



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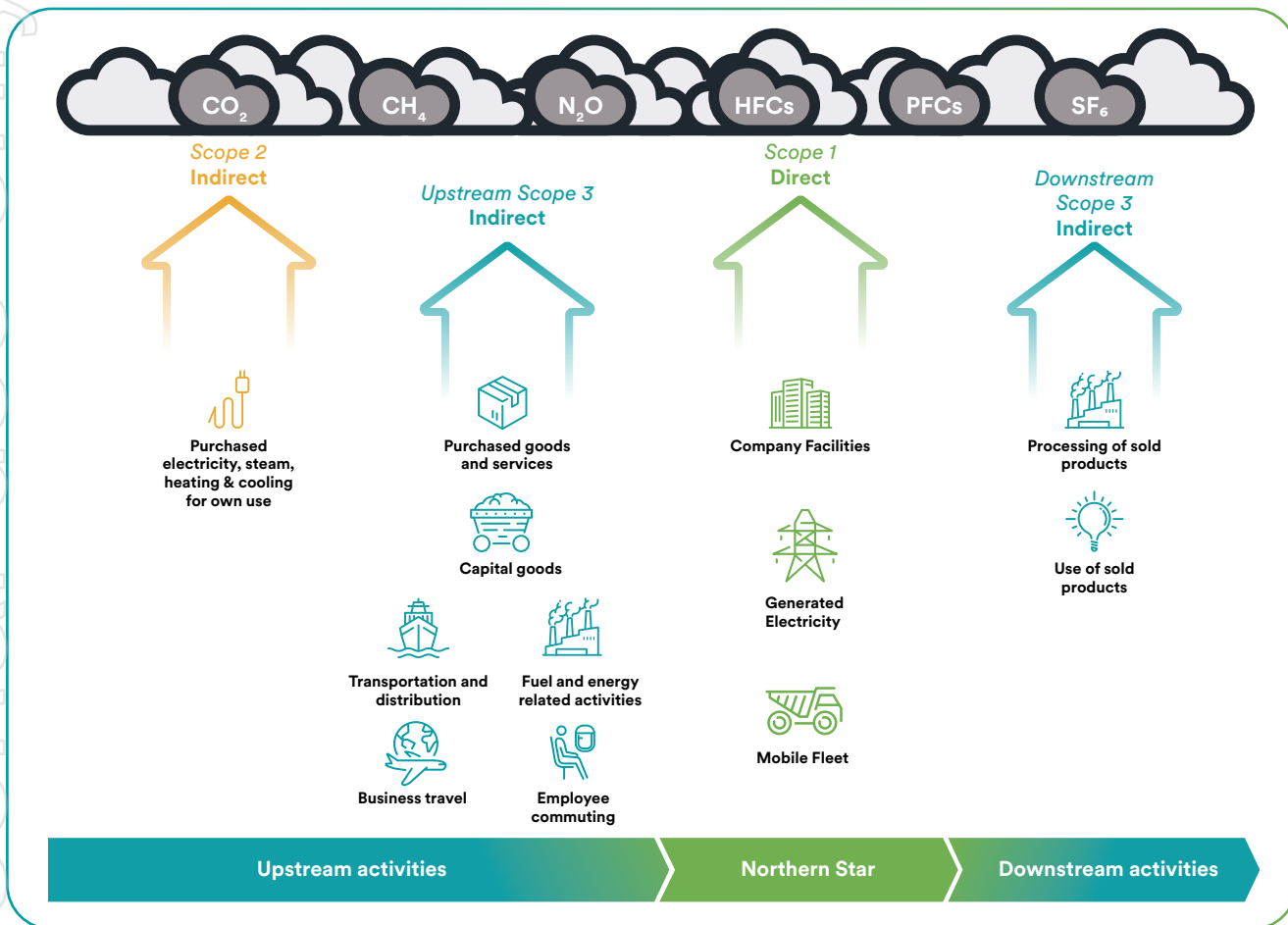
Jake Ziegelaar, Alternate Underground Manager, Ramone Mining, Jundee, Yandal Production Centre, Western Australia) at Jundee solar array under construction.

## Carbon Footprint

Northern Star’s carbon footprint for FY23 combines our Scope 1, Scope 2 and Scope 3 Emissions totalling 1.85 Mt CO<sub>2</sub>-e as depicted in Figure 25 below. The proportional

contribution of our regional production centres to our total emissions is provided in Table 11 overleaf.

**Figure 25** Overview of Northern Star’s GHG Emissions Footprint



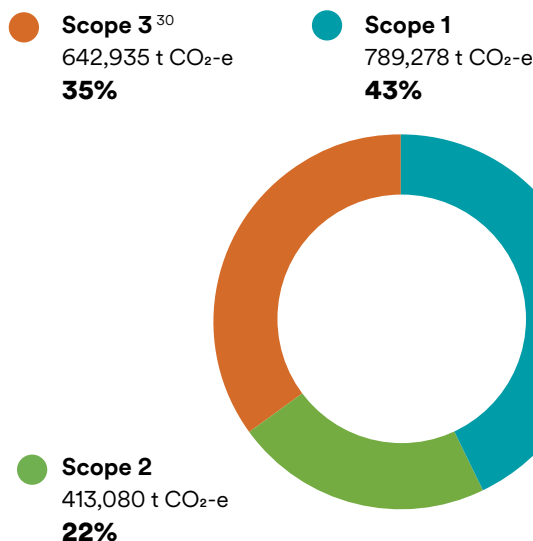
### Scope 1 and 2 Emissions

In FY23, our total Scope 1 and Scope 2 GHG Emissions increased from 1,163,635 t CO<sub>2</sub>-e in FY22 to 1,202,359 t CO<sub>2</sub>-e. This was due to various expansions across the business including at TBO and KCGM. During the same period, emissions intensity (total emissions generated per tonne of ore processed) was maintained relatively steady at 0.045 t CO<sub>2</sub>-e/t even though we experienced an increased depth at which we were recovering material, the TBO expansion and the increased material movement at KCGM which produced more waste.

Scope 1 and 2 GHG Emissions are calculated in accordance with the Australian Government methodology required by the *National Greenhouse and Energy Reporting (NGER) Act (2007)*. Emissions associated with our Pogo Operations in Alaska are calculated using the same method to ensure consistency in our emissions reporting.

The following figures and tables provide a breakdown of our Scope 1 and 2 GHG Emissions quantities by production centre and site.

**Figure 26** Northern Star’s FY23 GHG Emissions Profile



30. Refer to pages 76-77 for further information on how Scope 3 data is calculated, including calculation methods utilised in accordance with the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

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**Table 10** Northern Star's FY22 GHG Emissions Profile

	FY23	FY22	FY21
Scope 1 GHG Emissions (t CO <sub>2</sub> -e)	789,278	677,225	642,225
Scope 2 GHG Emissions (t CO <sub>2</sub> -e)	413,080	486,410	491,681
Total Scope 1 & 2 Emissions intensity (t CO <sub>2</sub> -e / t ore processed)	0.044	0.044	0.044

**Table 11** Scope 1 & 2 GHG Emissions by Site & Region (t CO<sub>2</sub>-e)

Operation	Site	FY23 t CO <sub>2</sub> -e	FY22 t CO <sub>2</sub> -e	FY21 t CO <sub>2</sub> -e
Kalgoorlie	Carosue Dam Operations	151,848	151,520	137,004
	Kalgoorlie Operations	95,149	135,343	208,558
	KCGM Operations	440,691	453,539	403,186
Yandal	Jundee Operations	148,143	141,252	127,944
	Bronzewing Operations	27,305	2,784	3,722
	Thunderbox Operations	160,145	108,459	97,306
Pogo	Pogo Operations	178,050	167,939	153,203
Exploration	Paulsens <sup>31</sup>	N/A	1,363	1,728
	Tanami <sup>31</sup>	924	1,315	1,147
Other	Corporate	103	121	110
		<b>1,202,359</b>	<b>1,163,635</b>	<b>1,133,906</b>

### Safeguard Mechanism

Our Fimiston, Carosue Dam, Jundee and Thunderbox Operations emit more than 100,000 tonnes of CO<sub>2</sub>-e each year. This means that 80% of our Scope 1 GHG Emissions, are reportable under the Australian Government's Safeguard Mechanism. The Safeguard Mechanism provides a framework for Australia's largest emitters to measure, report and manage their emissions and encourages them to keep emissions at or below the emissions baselines set by the Clean Energy Regulator.

Changes were made to the Safeguard Mechanism that become effective from 1 July 2023. The key changes relevant to Northern Star include the requirement for facilities to reduce their Scope 1 Emissions by 4.9% each financial year until 2030, with an objective to reduce net emissions by approximately 30% by the end of this period.

Northern Star is already making steps towards this as a result of its disclosed target reducing Scope 1 and 2 Emissions by 35% (from a 1 July 2020 baseline of 931 kt CO<sub>2</sub>-e) by 2030.

**Table 12** Site Emissions and Potential Impacts from the Safeguard Mechanism Reform

Site	Baseline	Potential Key Impacts
Carosue Dam Operations	108,400	<ul style="list-style-type: none"> <li>Baseline to decline below 100,000 t CO<sub>2</sub>-e Safeguard Mechanism threshold by the end of FY25</li> <li>Utilise multi-year monitoring period to achieve decarbonisation initiatives</li> <li>Baseline to transition to a production-adjusted baseline</li> </ul>
Thunderbox Operations	213,075	<ul style="list-style-type: none"> <li>Baseline to transition to a production-adjusted baseline by 31 October 2023</li> </ul>
KCGM Operations	238,394	<ul style="list-style-type: none"> <li>Baseline to transition to a production-adjusted baseline by 30 April 2024</li> </ul>
Jundee Gold Mine	173,116	<ul style="list-style-type: none"> <li>Baseline to transition to a production-adjusted baseline by 30 April 2024</li> </ul>

31. Paulsens and Western Tanami assets were divested in June 2022, however legacy information is still displayed in FY22 and FY21.

## Scope 3 Emissions

Northern Star has continued to evolve our measurement and analysis of our Scope 3 Emissions in line with the GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and supported by Greenbase's environmental accounting team.

In FY23 we completed a review of our supply chain and increased the number and type of suppliers surveyed. All suppliers to Northern Star during FY23 were assessed for materiality by spend and supplier categories. Supplier activities that were already being captured under our existing Scope 1 and 2 processes were excluded from the Scope 3 assessment to avoid duplication.

Of the fifteen Scope 3 categories listed in the GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard, the following were considered applicable to Northern Star Resources and included in our FY23 assessment:

- Purchased goods and services
- Capital goods
- Fuel and energy related activities
- Upstream transportation and distribution
- Waste generated in operations (new inclusion in FY23)
- Business travel
- Employee commuting
- Processing of sold products

The following categories were assessed as not applicable to Northern Star's current Operations during FY23:

- Upstream leased assets – no currently leased upstream assets not already considered in Scope 1 or 2 emissions
- Downstream transportation and distribution – not applicable as gold is generally sold directly from the onsite gold rooms. All transportation and logistics are the responsibility of the purchaser.
- Use of Sold Products – The majority of gold sold globally is retained as gold bars. It is not possible to quantify how much of Northern Star's gold sold is retained as gold bars or converted into alternate uses such as jewellery, medical devices, technology and so forth.
- End of life treatment of sold products – gold requires no end-of-life treatment as it does not have an expiration date, and requires no special treatment being inert and non-allergenic.
- Downstream leased assets – no currently leased downstream assets not already considered in Scope 1 or 2 emissions
- Franchises – no franchises.
- Investments - no investments not already considered in Scope 1 or 2 emissions

### Supplier Engagements

In FY23 Northern Star expanded the scope of our survey to capture our suppliers' levels of climate-related emissions reporting and targets. We sent out 150 Scope

3 surveys across 16 key supplier categories to our most material suppliers within our global supply chain. Of those surveyed 41 responded which represents around 1/3 of those surveyed. While we did receive 41 responses back, unfortunately only 25 were able to provide detailed specific emissions data. Where supplier specific data is not available, we have utilised approved alternate calculation methodologies as outlined in Table 13 overleaf.

We would like to acknowledge the assistance and support of several of our key suppliers, who have continued to be engaged and open in completing our annual Supplier Scope 3 Surveys.

The following suppliers this year not only responded to the survey but also ensured the data provided was valid: CSBP Limited, Orica Australia Pty Ltd and Orica USA Inc, Sandvik Mining & Construction, Cockburn Cement Limited, BGC Cement, Delta Transport Services LLC, Moly-Cop Australia, Bridgestone Mining Solutions, Komatsu, Kal Tire (Australia) Pty Ltd, Jetcrete Oz Pty Ltd, Magotteaux Australia Pty Ltd, Makuri Technology Pty Ltd, Chememan PCL, Alaska Steel Co, King's Beads Australia Pty Ltd, Redox Chemicals Pty Ltd and Street Concrete Pty Ltd.

We would also like to thank all our remaining suppliers who also completed the surveys, even without supplying all of the required data. The responses are utilised in developing our overall picture of our value chain.

We also continued to calculate the Scope 3 emissions for Employee Commuting and Business Travel from AMEX business travel reports and travel manifests generated from our INX InFlight system.

### Scope 3 Emissions Reduction Targets

While Northern Star does not have a formal Scope 3 Emissions Reduction target, we continue to be focused on being able to assess and understand our Scope 3 Emissions Sources so that we may be in a position to develop a baseline and target in the future.

We anticipate that our suppliers will also be pursuing their own decarbonisation plans and may collaborate with Northern Star on targets that align with our own targets to reducing our emissions. These supplier specific targets should also assist in contributing to a reduction in our overall Scope 3 emissions and allow us to consider additional opportunities.

### Emissions Calculation Methodology

Northern Star uses several methods to calculate the Scope 3 emissions attributable to its Operations from each of our suppliers. The specific method chosen is dependent upon the category of the supplier, and the data available. Information is provided in Table 13 overleaf.

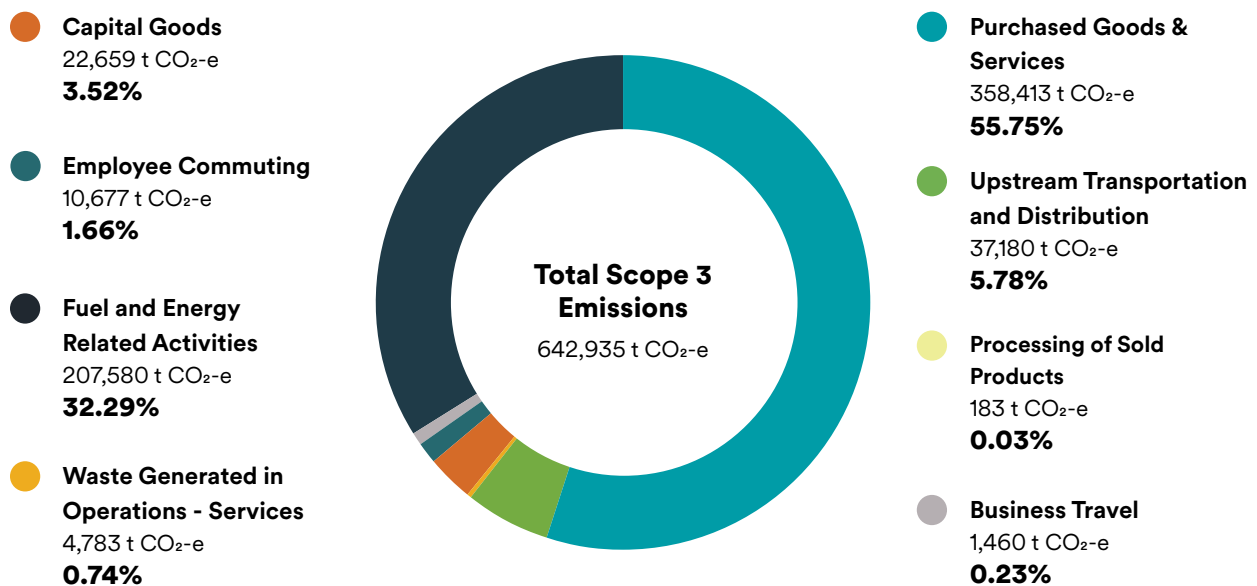
### Calculated Scope 3 Emissions

The highest contribution to our Scope 3 emissions, based on currently available data, is from purchased goods and services at 358 kt CO<sub>2</sub>-e, followed by fuel and energy related activities at 208 kt CO<sub>2</sub>-e.



**Table 13** Scope 3 Supplier Methodologies

Scope 3 Category	Calculation methodology options in accordance with the GHG Protocol	Our approach in preference order and factors utilised <sup>32</sup>
Category 1: Purchased Goods and Services  Category 2: Capital Goods	Supplier specific method	1. Survey – supplier specific quantity and supplier specific emission factor
	Hybrid Method	2. Survey – supplier specific quantity and peer emission factor (peer from survey or publicly reported) 3. Survey – supplier specific quantity and generic emission factor (UK Factors)
	Average Data Method	Not utilised
	Spend Based Method	4. Spend data – total spend and generic emission factor (US EPA Factors)
Category 3: Fuel and Energy Related Activities	Supplier specific method	1. NGER data – actual fuel consumed by Northern Star (NGA Factors)
	Average Data Method	Not utilised
Category 4: Upstream Transportation	Fuel based method	Not utilised
	Distance based method	1. Survey – distance/quantity transported and generic emissions factor (UK Factors)
	Spend based method	2. Spend data – total spend and generic emission factor (US EPA Factors)
Category 5: Waste Generated in Operations	Supplier specific method	Not utilised
	Waste type specific method	1. ESG data – total waste generated by Northern Star (NGA Factors & UK Factors)
	Average data method	Not utilised
Category 6: Business Travel & Category 7: Employee Commuting	Fuel based method	Not utilised
	Distance based method	1. AMEX & InFlight extracts – passenger flights and emissions factors (US EPA factors included in the generated reports)
	Spend based method	Not utilised
Category 10: Processing of Sold Products	Site specific method	1. Survey – Perth Mint quantity and emission factor
	Average data method	Not utilised

**Figure 27** FY23 Scope 3 Emissions by Source<sup>33</sup>

32. Factors Used:

- NGA - <https://www.dceew.gov.au/climate-change/publications/national-greenhouse-accounts-factors-2022>  
 - UK Factors - <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023>

- US EPA Factors - <https://edg.epa.gov/metadata/catalog/search/resource/details.page?uuid=https://doi.org/10.23719/1524744>

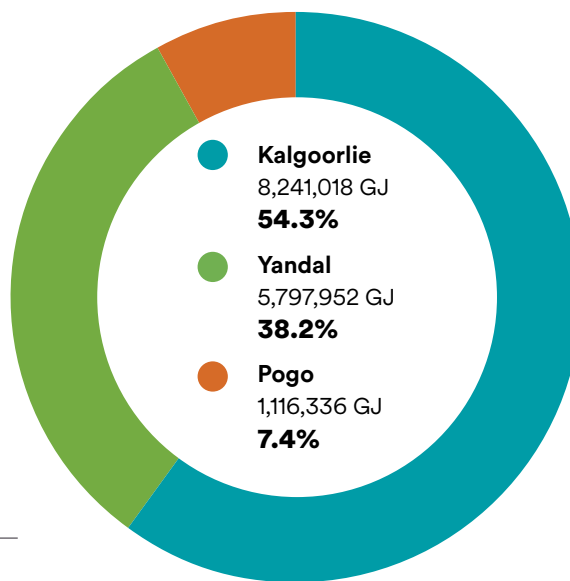
33. Calculated using the Scope 3 Supplier Methodologies in Table 13

### Energy Use & Production

Energy production at our Operations comprises electricity physically produced on our sites, in accordance with the definition set out in the *NGER Act 2017*. Power stations located at our Carosue Dam, Jundee and Thunderbox sites use a combination of gas and diesel to generate power through turbines and generator sets.

In FY23 our net energy consumption increased from 13.3M GJ in FY22 to 15.2M GJ. Energy consumption is reflective of our increase in production numbers, driven by increased material movement at Fimiston, commencement of mining at Orelia (Bronzewing) and Otto Bore (Thunderbox Operations), as well as the Thunderbox Operations processing expansion. Net energy consumed on our Operations comprises all energy consumed by our facilities, including site produced, grid purchased electricity and fuels burnt, less any power generated onsite.

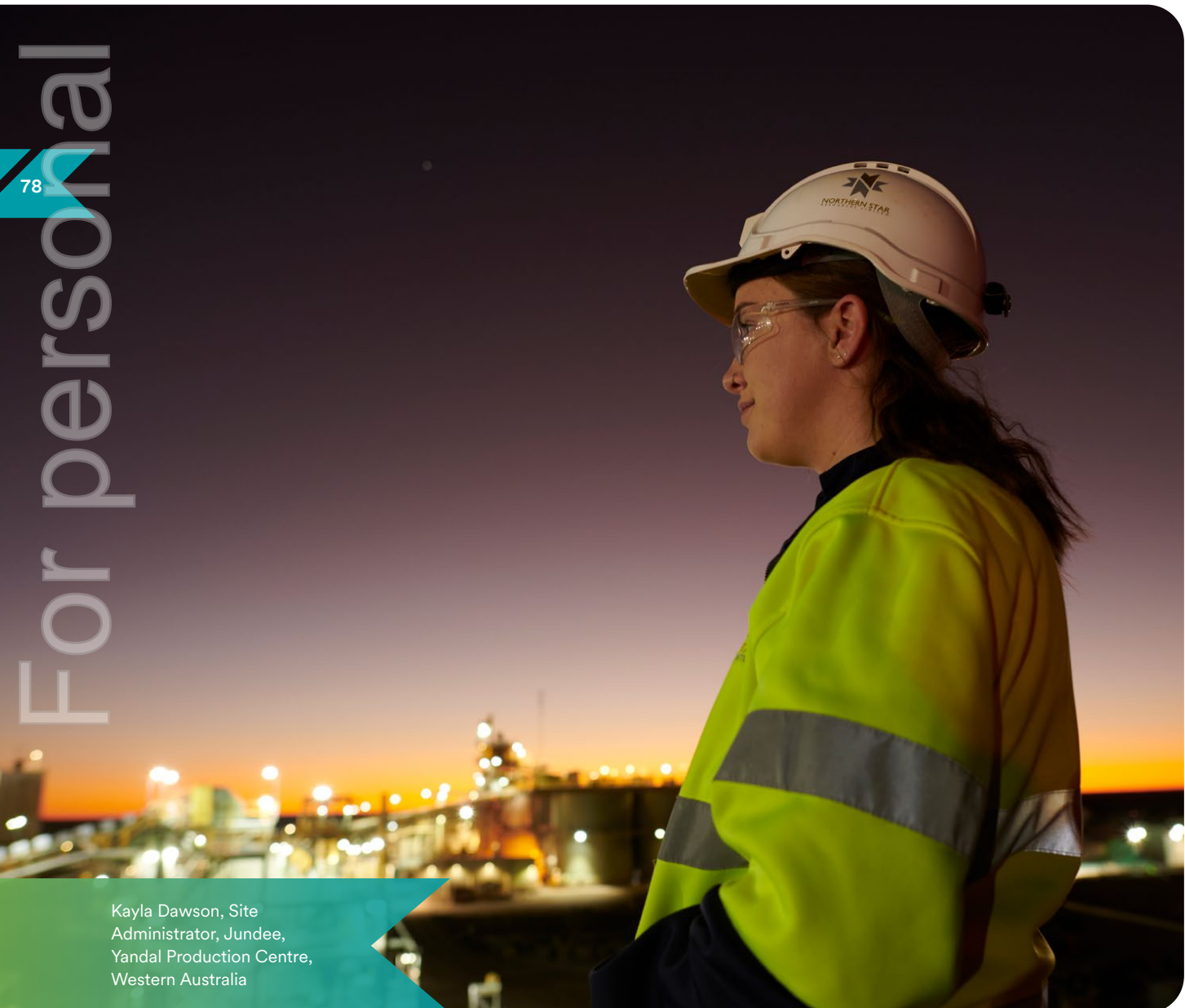
**Figure 28** FY23 Energy Consumption by Production Centre<sup>34</sup>



34. Exploration 0.08% (13,165 GJ) and Other 0.005% (728 GJ).

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Kayla Dawson, Site Administrator, Jundee, Yandal Production Centre, Western Australia



**Table 14** Energy Produced<sup>35</sup>

Operation	Site	FY23 GJ	FY22 GJ	FY21 GJ
Kalgoorlie	Carosue Dam Operations	579,882	580,933	528,571
	Kalgoorlie Operations	49,664	73,745	153,068
	KCGM Operations	-	-	-
Yandal	Jundee Operations	707,178	679,315	653,427
	Bronzewing Operations	-	-	-
	Thunderbox Operations	629,598	444,924	418,078
Pogo	Pogo Operations	-	-	-
Exploration	Paulsens <sup>36</sup>	N/D	7,037	8,720
	Tanami <sup>36</sup>	-	-	-
Other	Corporate	-	-	-
		<b>1,966,322</b>	<b>1,785,953</b>	<b>1,764,222</b>

**Table 15** Net Energy Consumed<sup>37</sup>

Operation	Site	FY23 GJ	FY22 GJ	FY21 GJ
Kalgoorlie	Carosue Dam Operations	2,475,521	2,425,475	2,159,155
	Kalgoorlie Operations	972,856	1,156,809	1,859,161
	KCGM Operations	4,791,641	4,259,143	3,685,915
Yandal	Jundee Operations	2,651,864	2,533,097	2,322,811
	Bronzewing Operations	401,102	39,635	52,998
	Thunderbox Operations	2,744,987	1,816,520	1,685,453
Pogo	Pogo Operations	1,116,336	1,064,880	1,002,757
Exploration	Paulsens <sup>36</sup>	N/D	19,411	24,594
	Tanami <sup>36</sup>	13,165	18,729	16,333
Other	Corporate	728	643	580
		<b>15,169,199</b>	<b>13,334,341</b>	<b>12,809,757</b>

35. In accordance with the NGER Act, 'energy produced' comprises of only electricity produced at Northern Star sites.

36. Paulsens and Western Tanami assets were divested in June 2022, however legacy information is still displayed in FY22 and FY21.

37. In accordance with the NGER Act, 'energy consumption' comprises all energies consumed by Northern Star including site produced electricity, grid purchased electricity, and fuels burnt such as diesel in vehicles and heating oil in furnaces.

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# Environmental Performance





# Environmental Performance



## FY23 Achievements

Freehold land set aside as an offset location for the protection and enhancement of Malleefowl habitat

Significant advancement of our Environmental Management System

Contribution of knowledge to industry on significant butterfly species

## Environmental Snapshot

0

Number of materially adverse environmental incidents<sup>38</sup>

5,938

Tonnes of waste sent for recycling (excluding waste rock and tailings)

0.00009

Freshwater Consumption Efficiency (ML/tonne ore processed)

2.15<sup>M</sup>

Tonnes of tailings recycled for pastefill

38. Refer to disclosure on page 93 "Environmental Incident Summary"

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## Environmental Performance

Northern Star values the diverse environments in which we operate, and we are committed to ongoing demonstrated performance improvements in our stewardship of these important ecosystems.

Our Environmental Policy, Global Standards and Environmental Management System (EMS) provide a framework to facilitate our management and protection of the natural resources we are proud to be given access to.



Brendon McGillivray, Senior ESR Advisor inspecting rehabilitation at Kanowna Belle, Kalgoorlie Production Centre, Western Australia

## Environmental Management System

Northern Star is committed to continually improving our EMS. We have been focussing on the integration and standardisation of EMS processes in our day-to-day Operations to ensure proactive environmental management occurs at all stages and across all areas of the business.

As highlighted in our FY22 Sustainability Report, a gap analysis was undertaken by external specialist consultants which has led to the development of an EMS Action Plan.

Figure 29 below highlights a number of the key EMS initiatives that are currently in progress within the business.

Figure 29 Northern Star EMS Initiatives in Progress





## Biodiversity

Northern Star's Operations are located in a variety of natural environments, each with its own unique biodiversity values. Northern Star undertakes biodiversity surveys in and around all areas where disturbance is certain, and is committed to maintaining and conserving biodiversity values and applies the 'mitigation hierarchy' (avoid, minimise, rehabilitate, offset) when there is a potential for biodiversity impacts.

Northern Star has continued to implement programs to better understand and monitor specific biodiversity values within and surrounding its Operations.

For example, the annual Malleefowl monitoring program continued at Carosue Dam with additional environmental team members trained in identifying and monitoring Malleefowl nesting mounds. Monitoring efforts have also extended to a parcel of freehold land south of Coolgardie set aside for the protection and enhancement of Malleefowl habitat in accordance with federal approval conditions. A Conservation Covenant application has

## TNFD Alignment

The Taskforce on Nature-related Financial Disclosures (TNFD) provides a framework for identifying nature-related risks and opportunities.

During FY24 Northern Star plans to conduct a gap analysis between the TNFD required governance disclosures and its existing governance and risk management processes.

Northern Star also plans on completing a benchmarking exercise against industry peers to set baseline reference

## Reclamation & Closure Preparedness

Northern Star has closure and reclamation plans at each of our Operations, developed in accordance with our Reclamation and Closure Preparedness Global Standard and approved by regulators in each region.

Our Reclamation and Closure Preparedness Global Standard requires all sites to ensure they plan and budget for progressive rehabilitation of areas no longer required for operational purposes.

In FY23, there were limited areas available for rehabilitation compared to previous years. Our general approach to rehabilitation includes the stockpiling of topsoil and vegetation which also contains valuable seeds during clearing works.

Once areas are ready for rehabilitation, we contour landforms to appropriate angles to minimise the risk of erosion and ensure long term stability, undertake deep ripping to encourage water retention and increased plant establishment, then place our previously removed topsoil over the area and undertake seeding with species in accordance with approved closure plans.

Monitoring of rehabilitated areas occurs to determine progress against completion criteria and to ensure any

been submitted for this parcel under the *Soil and Land Conservation Act 1945*.

In addition, monitoring in our Kalgoorlie Production Centre has continued to aid better understanding of the distribution of important butterfly species. Sensitivities surrounding these populations prevents further details being disclosed.



### More on our website...

An overview of our approach to biodiversity assessment and protection is available on our Company website at [Environmental Stewardship](#).

Details of important species, habitats, and ecological communities within and around our Operations can be found in our Biodiversity Values on our website at [Biodiversity Values](#).

points for its actions and disclosures in relation to nature-related risks and opportunities. This benchmarking is proposed to focus on gold mining assets.

The ESS Committee will receive a summary and report on the gap analysis and benchmarking exercise to allow Directors and senior managers to understand the relative maturity of disclosures by Northern Star and its peers, and to develop an action plan towards adopting the TNFD recommendations over the next few years.



### More on our website...

An overview of our approach to biodiversity assessment and protection is available on our Company website at [Environmental Stewardship](#).

underperformance can be addressed through remedial actions such as removal of weeds, reseeding or infill planting. In FY23, for example, progressive rehabilitation of the Kanowna Belle TSF2 Cell 1 was undertaken. This involved topsoil application on the starter embankment with light contour ripping, and rock armouring and topsoil application on the Stage 1 embankment raise with deep contour ripping.

Our exploration team rehabilitates access tracks and drill pads within six months of completing works, as required by their approvals.

During FY23 Northern Star saw increase in our overall disturbance footprint as can be seen from Table 16 and Table 17 overleaf. This is attributed primarily to clearing for the expansion of tailings facilities at CDO, TBO and KCGM.

**Table 16** Rehabilitation and Land Disturbance Across our Operations

Rehabilitation and Land Disturbance (ha)	FY23	FY22	FY21
Land cleared	716.6	579.6	-
Rehabilitation completed	66.6	140.3	126.1

**Table 17** Rehabilitation and Land Disturbance Details for FY23 by Operation

Operation	Site	Land Cleared (ha)	Land Rehabilitation (ha)
Kalgoorlie	Carosue Dam Operations	205	25.3
	Kalgoorlie Operations	29.5	27.2
	KCGM Operations	381	-
Yandal	Jundee Operations	-	-
	Bronzewing Operations	95.6	-
	Thunderbox Operations	-	-
Pogo	Pogo Operations	5.61	0.2
	Tanami	0.2	13.8
		<b>716.6</b>	<b>66.6</b>

### Western Australia Mining Rehabilitation Fund

Western Australia's Mining Rehabilitation Fund (MRF) commenced in 2013 as part of the WA Department of Mines, Industry Regulation and Safety's (DMIRS) strategy to encourage responsible development of resources and a commitment by the Mining Industry to environmental and community safety.

Northern Star collects and reports its mining-related disturbance and rehabilitation data to DMIRS annually and pays the required levy in to the MRF Fund.

In FY23, Northern Star reported a total of 10,884 ha of land disturbed and 2,440 ha of land under rehabilitation, with \$3.2M paid in to the MRF fund for FY23.

Of our Western Australian sites, KCGM has the greatest MRF liability as shown in Table 18. This is due to the scale of the Operation. Northern Star divested Paulsens and Western Tanami in June 2022; however, the Company still has tenements at Paulsens held under a Joint Venture, resulting in a small liability.

When planning projects, Northern Star tries to use existing disturbed areas as much as possible as part of the land disturbance mitigation hierarchy. This ensures we limit our clearing of new areas as much as possible. Whilst most of Northern Star's land rehabilitation is forecast occur when sites are at final closure, we look for opportunities along the way to rehabilitate areas that are not required for future use.

**Table 18** MRF Rehabilitation Liability and Levy by Operation

Operation	Site		FY23 Rehabilitation Liability	FY23 MRF Levy	FY22 Rehabilitation Liability	FY22 MRF Levy
Kalgoorlie	Carosue Dam Operations	A\$	47,619,929	472,376	45,470,058	449,927
	Kalgoorlie Operations	A\$	38,702,463	384,079	38,602,625	382,830
	KCGM Operations	A\$	129,000,450	1,282,097	125,009,258	1,241,203
Yandal	Jundee Operations	A\$	31,508,069	313,177	41,330,366	409,217
	Bronzewing Operations	A\$	30,642,839	297,870	28,939,488	288,047
	Thunderbox Operations	A\$	47,111,560	465,075	47,907,245	472,759
Pogo	Pogo Operations	A\$	N/A	N/A	N/A	N/A
Exploration	Pulsens	A\$	2,756	-	2,490,946	24,112
	Tanami	A\$	-	-	7,527,668	74,818
			<b>\$324,588,066</b>	<b>\$3,214,673</b>	<b>\$337,277,654</b>	<b>\$3,342,913</b>

## Waste Management

Our efforts to minimise and manage waste across our Operations are guided by our Waste Management Global Standard, which places a focus on reducing, reusing and recycling as priorities for waste management. Treatment and disposal of waste products into landfill should be a final option considered.

Wastes that cannot be reused or recycled are disposed of in onsite landfill facilities or sent to offsite landfill and incineration facilities, dependent on the type of waste.

Wastes are transported from our sites to licenced facilities and waste management service providers via approved

freight companies with controlled waste licences as required.

During FY23 Northern Star saw an overall increase in materials recycled, with significant volumes of scrap metal recycled at Pogo.



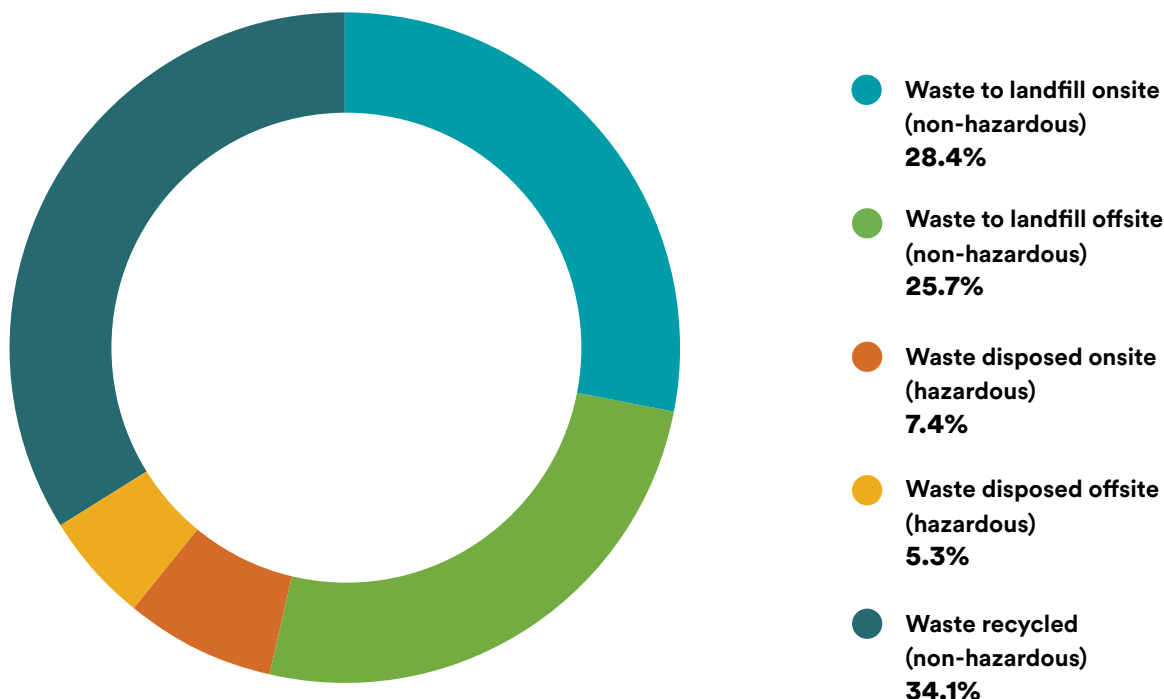
### More on our website...

An overview of our approach to biodiversity assessment and protection is available on our Company website at [Environmental Stewardship](#)

**Table 19** Key Recyclables

Key recyclables (tonnes)	FY23	FY22	FY21
Batteries	37	37	35
Co-mingled waste <sup>39</sup>	256	257	275
General waste	65	59	38
Scrap metal	3,856	2,949	3,389
Toner cartridges	-	-	4
Tyres	-	160	150
Waste oil	1,724	1,669	1,363
	<b>5,938</b>	<b>5,131</b>	<b>5,254</b>

**Figure 30** Distribution of Waste (Excluding Waste Rock and Tailings)



39. Co-mingled wastes are items comprising paper, cardboard, aluminium, steel, glass and rigid plastics that can be placed together in a single recycling bin, based on the capability of the receiving facility.

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## Waste Rock

Waste rock is material mined from our Operations that does not contain gold at economic levels. This material must be disposed of to waste rock landforms or backfilled into open pits or underground voids.

Northern Star undertakes waste optimisation and reduction programs continuously for both our existing mining Operations as well as any proposed new mines.

While the tonnes of waste rock produced per annum may appear to be large, they are already significantly reduced by our waste optimisation programs.

Volumes of waste generated and placed in waste dumps is reduced through a number of different ways including

application of optimal mining methodologies, underground versus open pit mining, waste rock recycling and in-pit waste rehandling.

Where generation of waste rock is unavoidable, backfilling is Northern Star's first preference as it eliminates the need to create permanent landforms in the environment, while decreasing safety risks associated with open voids. However, backfilling relies on availability and distance to barren voids and is not always practical.

FY23 saw an increase in the total amount of waste rock produced as a result of increased material movement at KCGM, and commencement of mining at Orelia (Bronzewing) and Otto Bore (Thunderbox Operations).

**Table 20** Waste Rock Production

Production Centre	FY23	FY22	FY21
Kalgoorlie	86,553,507	70,816,917	74,470,505
Yandal	30,613,636	19,803,016	23,297,362
Pogo	763,561	769,686	834,972
<b>Waste Rock sent to waste dumps (t)</b>	<b>117,930,704</b>	<b>91,389,619</b>	<b>98,602,839</b>
Kalgoorlie	1,422,218	3,895,509	4,475,126
Yandal	210,343	881,295	2,074,889
Pogo	-	-	-
<b>Waste rock recycled for backfill (t)</b>	<b>1,632,561</b>	<b>4,776,804</b>	<b>6,550,015</b>
Kalgoorlie	87,975,724	74,712,426	78,945,630
Yandal	30,823,979	20,684,311	25,372,251
Pogo	763,561	769,686	834,972
<b>Total waste rock generated (t)</b>	<b>119,563,264</b>	<b>96,166,423</b>	<b>105,152,853</b>

## Hazardous Materials

Mineral processing and mining practices can result in hazardous materials being produced at our Operations. Site-specific management plans and procedures outline how each material is to be managed to ensure compliance with relevant regulations and to reduce the risk of causing environmental harm. Training is conducted to ensure staff involved in hazardous material management are competent to undertake the required tasks.

Hazardous materials are generated through our mining and mineral processing practices. For the purposes of this Report, the following waste streams are included:

- Naturally occurring arsenic trioxide
- Mercury
- Batteries
- Waste hydrocarbons
- Greases
- Hydrocarbon contaminated waste

## Tailings

Northern Star deposits tailings material into four different types of tailings storage facilities (TSF's), with all remaining compliant with local, state, and federal regulations and guidelines in their respective jurisdictions throughout FY23.

FY23 saw an increase in the total amount of tailings produced, resulting from an increase in material processing.

### Tailings Recycling Opportunities

Northern Star has continued to seek opportunities across our business in FY23 to optimise waste recycling where this can be achieved in accordance with regulations, guidelines and permits.

As we develop our underground Operations, the use of pastefill, or cemented paste backfill, has continued to be an opportunity for us to recycle a portion of our tailings generated.

The pastefill, which is broadly a combination of thickened fine grained mine tailings plus a binding agent such as cement, is created at our onsite pastefill plants and pumped through special infrastructure into selected areas of our underground workings.

The pastefill is used to backfill open voids, and once cured can provide additional stability to underground workings.

By design, the majority of tailings are discharged into our purpose built TSF's, but in FY23 we diverted 2.15M tonnes of tailings into pastefill which was 8% of our overall tailings production for the year, and an increase of the volume recycled by 70% from FY22.

## Global Industry Standard on Tailings Management

Whilst managing the risks associated with TSFs is our priority, we continue to assess the additional benefits associated with the administrative cost of achieving conformity with the Global Industry Standard on Tailings Management (GISTM).

Northern Star's tailings storage facilities have been the subject of third-party evaluations and gap analyses in the context of GISTM compliance.

Assessment of the risks, benefits and costs, and the necessary steps and timeframe involved to achieve conformity and to maintain ongoing annual compliance with GISTM is a complex process, given that the GISTM contains six topic areas, with 15 Principles consisting of 77 auditable requirements.

Northern Star intends to align with the GISTM over time, including ensuring that all new tailings storage facilities align to GISTM on a risk-based approach, and use the principles moving forward, making decisions on compliance on a case by case basis. Northern Star considers that its current performance-based risk-informed approach is consistent with best practice standards and is appropriate for Northern Star's operations.



### More on our website...

An overview of our tailings management, deposition types, and facility details are available on our Company website at [Environmental Stewardship](#)

Details of our current tailings storage facilities can be found at: [FY23 Tailings Storage Summary](#)

Tailings Storage Facility 3 embankment and discharge pipes at Jundee, Yandal Production Centre, Western Australia

**Table 21** Tailings Production and Recycling

Production Centre	FY23	FY22	FY21
Kalgoorlie	18,022,507	19,158,977	24,532,649
Yandal	6,190,053	5,458,936	8,380,467
Pogo	853,753	719,362	846,751
<b>Tailings sent to TSF's (t)</b>	<b>25,066,312</b>	<b>25,337,275</b>	<b>33,759,867</b>
Kalgoorlie	939,774	634,544	602,369
Yandal	833,096	311,818	20,396
Pogo	375,040	314,640	107,729
<b>Tailings recycled for pastefill (t)</b>	<b>2,147,910</b>	<b>1,261,002</b>	<b>730,494</b>
Kalgoorlie	18,962,280	19,793,521	25,135,018
Yandal	7,023,149	5,770,754	8,400,863
Pogo	1,228,793	1,034,002	954,480
<b>Total tailings generated (t)</b>	<b>27,214,222</b>	<b>26,598,277</b>	<b>34,490,361</b>

**Table 22** Tailings Composition

Tailings Composition (tonnes)	FY23	FY22	FY21
Non-Cyanide containing tailings	1,228,793	1,034,002	954,480
Cyanide containing tailings	25,985,430	25,564,275	33,535,881



Andrew Bell, Closure Works Supervisor  
and Darcy Chaplin, Production  
Employee - Shovel, KCGM, Kalgoorlie  
Production Centre, Western Australia



## Water Stewardship

Access to water is a fundamental human right and is critical to our Operations. Most of our sites exist in areas with high baseline water stress, and we are committed to using and managing this valuable resource in a sustainable way to ensure shared users and the environment are not adversely impacted.

Total water withdrawals have increased in FY23 from FY22 due to increased production. Water intensity has also increased slightly, across the business. Key water uses across our Operations are processing and beneficiation purposes, as well as dust suppression. Water is also treated for use in our camps and offices.

Key water conservation and reduction projects across our Operations in FY23 included the commissioning of the tailings thickener at Thunderbox and the installation of automatic vaporiser change-over equipment for de-icing liquid oxygen plant vaporisers at the Gidji Processing Plant. Several initiatives at KCGM continue to contribute to our reduced use of fresh water in Kalgoorlie.

Northern Star's Global Water Standard requires all sites to ensure water-related risks are considered as part of the site risk assessment process. These risk assessments identify key water stakeholders, water resources at risk of water stress and whether the water source is within environmentally significant areas. Sites develop detailed water management plans guided by the results of the risk assessment.

Water abstraction, use and discharge is highly regulated and, as such, significant monitoring is undertaken to ensure volumes and discharges are within limits

Monitoring also allows us to ensure all water-related infrastructure complies with licence requirements and is maintained to minimise the risk of unintended spills or discharges to the environment.

In Western Australia, all Northern Star's borefields are operated in accordance with Department of Water and Environmental Regulation (DWER) endorsed Groundwater Operating Strategies.

In Alaska, our Pogo Operations are required to operate in accordance with the Alaskan Department of Environmental Conservation (ADEC) Alaska Pollutant Discharge Elimination System Permit, which allows for the discharge of treated water into the Goodpaster River. In addition, Pogo must adhere to the Storm Water Pollution Prevention Plan which manages the risk of polluted stormwater entering creeks and the Goodpaster River.







### More on our website...

An overview of our water management, conservation, and stewardship details are available on our Company website at [Environmental Stewardship](#)



Photo taken by employee Miranda McCarthy of the Gravel pond, pumps and mine water treatment plant at Pogo Operations, Alaska

**Table 23** Water Stress

Operational Centre Water Data (ML)	Baseline water stress level <sup>40</sup>	Water recycled or reused	Total freshwater withdrawal	Total other water withdrawal	Total discharge	Net total consumption
Kalgoorlie		11,212	1,326	13,759	-	15,085
Yandal		2,334	333	7,463	-	7,796
Pogo		493	28,402	1,240	27,717	1,926
Exploration		-	-	7	-	7
<b>Total</b>		<b>14,039</b>	<b>30,061</b>	<b>22,470</b>	<b>27,717</b>	<b>24,814</b>

Key  High  Medium  Low

**Table 24** Net Total Water Consumption

Net Total Water Consumption (ML)	FY23	FY22	FY21
Kalgoorlie	15,085	11,600	11,172
Yandal	7,796	6,549	6,523
Pogo	1,926	814	447
Exploration	7	75	58
<b>Total</b>	<b>24,814</b>	<b>19,039</b>	<b>18,200</b>
<b>Net Total Water Consumption Efficiency (ML/t ore processed)</b>	<b>0.0009</b>	<b>0.0007</b>	<b>0.0007</b>

**Table 25** Freshwater Consumption

Freshwater Consumption (ML)	FY23	FY22	FY21
Kalgoorlie	1,326	1,578	1,849
Yandal	333	252	227
Pogo	685	-	-
Exploration	-	10	34
<b>Total</b>	<b>2,344</b>	<b>1,840</b>	<b>2,110</b>
<b>Freshwater Consumption Efficiency (ML/t ore processed)</b>	<b>0.00009</b>	<b>0.00007</b>	<b>0.00008</b>

40. Baseline water stress measures the ratio of total water withdrawals to available renewable surface and groundwater supplies. Water withdrawals include domestic, industrial, irrigation, and livestock consumptive and non-consumptive uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher stress level values indicate more competition among users. Information on baseline water stress levels is available from the World Resources Institute – Aqueduct Water Risk Atlas: <https://www.wri.org/applications/aqueduct/water-risk-atlas>

## Air Quality

Northern Star monitors and manages key air quality metrics across our Operations and local communities located adjacent to our Operations.

Air quality is typically influenced by industrial emissions, cars, planes, household emissions including wood fired heaters, bushfires and controlled burnoffs, dust from unsealed roads and construction development, degraded lands and many other sources.

Air quality results are reported to the Australian and United States Governments via several mechanisms:

- Australian data is reported via the National Pollutant Inventory<sup>41</sup>

- Alaskan data is reported via the Toxics Release Inventory<sup>42</sup>

The air quality metrics disclosed in this Report are calculated in accordance with the Australian Government's National Pollutant Inventory methodology to ensure consistency in calculation methods across regions.



### More on our website...

An overview of our water management, conservation, and stewardship details are available on our Company website at [Environmental Stewardship](#)

**Table 26** Measured Air Emissions

Air Total Emissions (tonne)	FY23	FY22	FY21
Carbon monoxide	3,479	3,436	2,767
Oxides of nitrogen	13,207	11,456	9,859
Oxides of sulphur	20,928	26,162	21,197
Particulate matter <10um (total)	15,762	12,976	10,892
Mercury	0.01	0.02	0.009
Lead	0.2	0.2	0.2
Volatile organic compounds	545	433	360

41. [www.npi.gov.au](http://www.npi.gov.au)

42. [www.epa.gov/trinationalanalysis](http://www.epa.gov/trinationalanalysis)

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Brendon McGillivray, Senior ESR Advisor at the Sonic Detection and Ranging (SODAR) wind profiler station, Kanowna Belle, Kalgoorlie Production Centre, Western Australia



### Environmental Incidents Summary

Northern Star has an internal system for recording environmental incidents, including documenting incident details and corrective actions to be undertaken. The system enables automatic reminders to be sent to personnel responsible for implementing the corrective actions.

Most incidents relate to spills both within and outside of primary containment infrastructure, these account for 60% of incidents. All spills are cleaned up immediately with any hydrocarbons or contaminated materials disposed of in an appropriate and licensed landfill facility.

Northern Star’s reporting standards require all incidents to be reported, whether they cause actual harm to the environment or not. In this way, we are able to identify trends that could point to a potential for larger incidents. Where trends appear in our data, actions are taken to explore more closely what is leading to these.

Once causes have been identified, relevant environmental personnel are involved in developing an appropriate response.

Following an inspection during 2019 by the United States Environmental Protection Agency (EPA) at our Pogo Operations, Northern Star received notification in 2022 that several waste streams at the assay laboratory in the Pogo processing plant were not determined, registered and managed according to *Resource Conservation and Recovery Act (RCRA)* technical requirements.

These breaches did not cause environmental harm but related to improperly storing, treating and disposing of hazardous materials at Pogo. The breach of RCRA resulted in the Company paying a financial settlement of US\$600,000 to the EPA in October 2022.

Key Pogo Environmental staff have also received direct training from and conducted a RCRA Program review with the assistance of a specialist consultant and they continue to work with the consultant on evaluating waste streams at the Pogo Operations.

**Figure 31** FY23 Environmental Incidents by Consequences



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# Governance, Ethics & Transparency



# Governance, Ethics & Transparency



## FY23 Achievements

100%

alignment with all 35 of the ASX Corporate Governance Council's Principles and Recommendations

38%

female participation rate on the Board of Directors<sup>43</sup>

43. As at 30 June 2023.

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## Corporate Governance Overview

Throughout FY23 Northern Star was fully aligned with all 35 Principles and Recommendations of the ASX Corporate Governance Council. Since the end of FY21, female Board participation has increased 5%, from 33% to 38% of all Directors (at 30 June 2023).

The Board has seven Non-Executive Directors and one Executive Director, being the Managing Director & CEO, Stuart Tonkin. The Board supports the view that its Directors having diversity in gender, age, skillset, background and tenure helps ensure more perspectives contribute to decision-making.

## Ethical Business Practices

Northern Star actively promotes a corporate culture committed to ethical business practices, compliance with the law and exercising integrity in decision making by our people and in our Operations through our STARR Core Values, Code of Conduct and other key core corporate governance policies.

All inductions completed by our workers cover these key documents. Northern Star's policy commitments for responsible business conduct apply to all of the Company's activities and business relationships equally.

Employees and other stakeholders who suspect or see unethical, illegal or improper behaviour within the Company are encouraged to report and are protected under our Whistleblower Policy which provides for a confidential, anonymous and retaliation-free process for people to report their concerns, free of fears of retaliation, with confidence the Board will be made aware of material breaches of the Code of Conduct.

## Modern Slavery

Northern Star condemns all human rights abuses, including modern slavery practices in all its forms. Modern slavery is a business risk for every industry and sector, which can have severe consequences for victims and human rights violations. We recognise our role in protecting the human rights of all people involved in, or impacted by, our business practices. We take meaningful steps to identify and address our modern slavery risks and maintain responsible and transparent supply chains.

Northern Star has published mandatory Modern Slavery Statements under the *Modern Slavery Act 2018 (Cth)* in FY20, FY21 and FY22.

Please refer to our FY23 Modern Slavery Statement released together with this Report for detailed disclosures on how we are addressing the risks of modern slavery in our supply chain.



### More on our website...

Further information on our corporate governance structure, ethical business practices, internal audit and risk management, and modern slavery programs are available on our website at [Governance, Ethics & Transparency](#)

For full details of the Company's corporate governance practices and Board skill sets, see our FY23 Corporate Governance Statement released on the ASX and available at [Corporate Governance](#)

Whistleblower reports are standing items for discussion on all Audit & Risk Committee and Board agendas.

In FY23 Northern Star saw an increase in reports made under the Whistleblower Policy, which is regarded as a positive reporting trend.



### More on our website...

Our STARR Core Values, Code of Conduct and other key core corporate governance policies (available on our website at [Corporate Governance](#))



## Transparency in Disclosure

Northern Star understands that stakeholder trust and investor confidence is built and maintained on foundations of transparent disclosure. We prioritise being clear and unambiguous about our corporate structure, Operations and performance, and governance practices in our disclosures for the benefit of, and maintaining a genuine dialogue with, our shareholders and stakeholders.

Our public disclosures are guided by Northern Star's Continuous Disclosure Policy and Shareholder Communication Policy. Northern Star regularly reviews and enhances its periodic disclosures to ensure openness, fairness and accountability in all our external communications.

As part of our commitment to transparency, we regularly pursue meetings with proxy advisors and prior to the

Annual General Meeting each year we invite shareholders to ask questions of our Board and Auditor either in advance or at the meeting (whether in person or virtually using hybrid meeting technology).



### More on our website...

As part of our commitment to transparency, under the Australian Voluntary Tax Transparency Code, Northern Star continues to voluntarily publish the Company's annual Tax Corporate Governance Statements on our website at [Corporate Governance](#)

## Risk Management

Sustainability is considered in our decision-making, strategic planning and risk management processes. Using our company-wide Risk Management Standard, we identify and evaluate potential risks, ensuring sustainability risks are considered by senior management and the Board.

The oversight of risk management rests with the Audit and Risk Committee (ARC), while the ESS Committee focuses specifically on sustainability risks, providing regular updates to the Board.

In FY23, climate change related and other ESG risks were reviewed by management and changes reported to the ESS Committee. Climate change and ESG related risks are also included with the organisation's strategic risk profile.

Further, new enterprise risk and assurance software was implemented for use across Northern Star in identifying, recording, monitoring and reporting outcomes of risk management and assurance activities, including sustainability risks.



### More on our website...

Please refer to our Annual Report for further information on Risk Management, including Cyber Security at [Annual Report](#)

## Internal Audit

Internal audit is undertaken by the Group Manager Audit & Risk (GAR), supported by outsourced internal audit service providers.

The GAR function is governed by an Internal Audit Charter approved by the Audit and Risk Committee. The GAR function provides risk-based assurance on whether risk management, internal control and governance processes are appropriately designed and operating at the level expected by the Board.

The Audit and Risk Committee evaluates the GAR function's staffing levels and scope of work to ensure they are appropriate given the level of assurance required over the organisation's key risks and controls. The Audit and Risk Committee approves the annual internal audit plan, reviews internal audit findings and monitors that audit actions have been implemented by management.

The Audit and Risk Committee approves the appointment and dismissal of the Group Manager Audit & Risk and assesses their performance, independence and objectivity. The Group Manager Audit & Risk reports to the Audit and Risk Committee, with functional oversight provided by the Chief Financial Officer.

While internal and external audit activities are separate and independent of each other, there is strong collaboration between both audit functions to maximise the effectiveness of assurance activity and minimise duplication of assurance effort and resources.



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Brook Ekers, Senior Geologist  
– Resources at our Corporate  
office, Perth, Western Australia



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# **Appendix A:** Limited Assurance Statement



## Appendix A: Limited Assurance Statement

### INDEPENDENT ASSURANCE STATEMENT



**To: The Stakeholders of Northern Star Resources Limited**

#### Introduction and Objectives of Work

Bureau Veritas Australia Pty Ltd ("Bureau Veritas") was engaged by Northern Star Resources Limited ("Northern Star") to undertake a limited assurance engagement on selected information and data presented in the FY23 Northern Star Sustainability Report ("the Report"). This Assurance Statement applies to the related information included within the scope of assurance described below.

#### Scope of Limited Assurance

The scope of assurance was limited to the information and data related to Northern Star's operating assets: Kalgoorlie Production Centre, Yandal Production Centre, Pogo Production Centre, Perth Corporate Office and Exploration for the period of 1<sup>st</sup> July 2022 to 30<sup>th</sup> June 2023.

The complete list of assured disclosures is referred to within the GRI Index of the Report.

Our assurance engagement does not extend to any other information included in the Report or information in respect of earlier periods.

#### Limited Assurance Conclusion

On the basis of our procedures as described under "Methodology" and the evidence we have obtained, we provide limited assurance that nothing has come to our attention:

- To indicate that the statements reviewed within the scope of our assurance engagement are inaccurate and the information included therein is not fairly stated.
- That causes us to believe that the information, within the scope of our assurance engagement, is not prepared, in all material respects, in accordance with the criteria indicated under "Understanding how Northern Star has Prepared the Information".

It is our opinion that Northern Star has established systems for the collection, aggregation and analysis of relevant information and quantitative data.

#### Understanding how Northern Star has prepared the Information

The Report was prepared in accordance with the GRI Standards including appropriate considerations of the reporting principles and additional requirements as listed in GRI 1: Foundation 2021.

#### Northern Star's Responsibilities

Management of Northern Star was responsible for:

- Selecting and establishing suitable criteria for preparing the Report and information subject to our limited assurance;
- Preparing the information in accordance with the criteria; and
- Designing, implementing and maintaining internal controls over information relevant to the preparation of the Report that is free from material misstatement, whether due to fraud or error.

#### Our Responsibilities

Bureau Veritas was responsible for:

- Planning and performing the engagement to obtain limited assurance about whether the information included within the scope of assurance is free from material misstatement, whether due to fraud or error;
- Forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- Reporting our conclusion to the Directors of Northern Star.

Bureau Veritas was not involved in the drafting of the Report and our independence has not been compromised.



**BUREAU  
VERITAS**



## INDEPENDENT ASSURANCE STATEMENT



**BUREAU  
VERITAS**

### Methodology

Our limited assurance engagement was performed in accordance with International Standard on Assurance Engagements 3000 (Revised) *Assurance Engagements other than Audits or Reviews of Historical Financial Information* issued by the International Auditing and Assurance Standards Board, and informed by Bureau Veritas' standard procedures and guidelines for external verification of Sustainability Report.

Our work was planned and executed in a manner designed to produce a limited level of assurance and to provide a sound basis for our conclusions. We undertook the following activities:

- Review of the suitability of the criteria used as the basis for preparing the information subject to assurance;
- Interviews and follow-up communication with relevant individuals;
- Review of documentary evidence produced by Northern Star representatives;
- Audit of performance data and factual information including source verification; and
- Review of Northern Star's processes for identification, aggregation and analysis of relevant information, report content and performance data.

### Limitations and Exclusions

Excluded from the scope of our work is any assurance of information relating to:

- Activities outside the defined reporting period;
- Statements of commitment to, or intention to undertake future actions by Northern Star;
- Statements of position, opinion, belief and/or aspiration by Northern Star;
- Financial data audited by an external third party; and
- Other sites and/or activities not included in the scope.

This independent assurance statement should not be relied upon to detect all errors, omissions or misstatements that may exist within the Report.

### Statement of Independence, Impartiality and Competence

Bureau Veritas is a global leader in Testing, Inspection and Certification ("TIC") services. The Group's mission is to reduce its clients' risks, improve their performance and help them innovate to meet the challenges of quality, health, safety, hygiene, environmental protection and social responsibility. Leveraging its renowned expertise, as well as its impartiality, integrity and independence, Bureau Veritas has helped build trust between companies, public authorities and consumers for more than 195 years.

Bureau Veritas has implemented a Code of Ethics across the business to maintain high ethical standards among its personnel in their day to day business activities. We are particularly vigilant in the prevention of conflicts of interest.

No member of the assurance team has a business relationship with Northern Star, its Directors or Managers beyond that required of this assignment. We have conducted this assurance engagement independently and there has been no conflict of interest.

The assurance team was selected based on its extensive Industry Sector knowledge and experience in conducting independent verification, validation and assurance of Environmental Social and Governance (ESG) information and associated systems and processes.

**Jeremy Leu**

**General Manager – Certification and Sustainability Pacific**

22<sup>nd</sup> August 2023

Bureau Veritas Australia Pty Ltd



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# Appendix B: Assumptions used to Support Net Zero Ambition and Emissions Reduction

## **Appendix B: Assumptions used in Net Zero Ambition and Emissions Reduction**

- Renewable energy technology cost assumptions utilise:
  - reports commissioned by the Australian Energy Market Operator (Aurecon – 2023) and CSIRO (GenCost 2022-23);
  - specialist industry advisors; and
  - commercial offerings from technology providers.
- Renewable energy projects installed on Northern Star sites are to be registered for the purpose of generating green products, for the benefit of or use by Northern Star.
- Grid emission intensity factors published by the Australian Clean Energy Regulator for grid supplied sites.
- Northern Star GKL Properties have been assessed for eligibility for Human Induced Regeneration projects.
- Renewable energy resources modelling uses a combination of publicly available data (weather satellites) and site-specific measurements.
- Scope 1 Emissions reductions based on modelled reduction in fossil fuel requirements from renewable energy projects (Wind, Solar and Battery Energy Storage Systems) installed at Northern Star Operations using original equipment manufacturer (OEM) performance curves.
- Scope 2 Emissions will be reduced through a combination of grid greening and contracting for electricity from renewable generators.



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# Additional Information



# Glossary

**ABN**

Australian Business Number

**ADEC**

Alaskan Department of Environmental Conservation

**ASX**

Australian Securities Exchange, trading as ASX

**ASX Corporate Governance Council Principles and Recommendations**

Principles and Recommendations (4th edition) of the ASX Corporate Governance Council on the corporate governance practices to be adopted by ASX listed entities and which are designed to promote investor confidence and to assist listed entities to meet shareholder expectations

**Au**

The chemical symbol for gold

**Audit & Risk Committee**

Audit and Risk Sub-Committee of the Board

**AusIMM**

Australasian Institute of Mining and Metallurgy

**B or bn**

Billion

**Board**

Board of Directors

**CDO**

Carosue Dam Operations

**CDP**

Carbon Disclosure Project

**CME**

The Chamber of Minerals and Energy of Western Australia

**CO<sub>2</sub>**

Carbon dioxide

**CO<sub>2</sub>-e**

Carbon dioxide equivalent

**Company**

Northern Star Resources Limited ABN 43 092 832 892

**contractors**

Externally employed contracted workers engaged by the Company to support operations

**Corporations Act**

Corporations Act 2001 (Cth)

**Critical Risk Standards**

Northern Star has 10 Critical Risk Standards apply across the Company mines, projects and exploration sites

to define the health and safety performance requirements to prevent serious and or fatal injuries.

**Director**

A director of the Company duly appointed under the Corporations Act

**DMIRS**

Department of Mines, Industry Regulation and Safety

**DWER**

Department of Water and Environmental Regulation

**EAP**

Employee assistance providers(s)

**Emissions Reduction**

The mitigation or abatement of greenhouse gas or airborne contaminant emissions

**employees**

Total number of employees of the Group including permanent, fixed term and part-time. Does not include contractors

**EMS**

Environmental Management System

**EPA**

Environmental Protection Agency

**ERT**

Emergency Response Team

**ESG**

Environment, Social & Governance

**ESS**

Environmental, Social & Safety

**ESS Committee**

Environmental, Social & Safety sub-Committee of the Board

**FIFO**

Fly-in fly-out; those personnel who fly to our operations and stay in an accommodation village while at work

**FPIC**

Free, Prior and Informed Consent, as defined by the United Nations at <https://www.fao.org/3/i6190e/i6190e.pdf>

**FY**

Financial year ended 30 June

**GABC**

Goldfields Aboriginal Business Chamber

**GAR**

Group Manager Audit and Risk

**GHG**

Greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, and nitrogen trifluoride).

**GISTM**

Global Industry Standard on Tailings Management

**GJ**

Gigajoule; one billion joules

**GRI**

Global Reporting Initiative

**Group**

Northern Star Resources Limited and all of its wholly owned subsidiaries

**ha**

Hectare

**HRIS**

Human Resources Information System

**HSR**

Health and Safety Representative

**ICAM**

Incident Cause Analysis Method

**Incident**

means the partial or whole damage or destruction of an area of cultural or heritage significance without Traditional Owner consent and/or required legal or regulatory approvals

**IPCC**

Intergovernmental Panel on Climate Change

**ISO 14001**

The ISO 14001 Environmental Management Systems Standard, an international standard prescribing a structured approach to environmental Protection

**ISS**

Institutional Shareholder Services Inc

**ISSB**

International Sustainability Standards Board

**K or k**

Thousand

**KBULG**

Kalgoorlie Boulder Urban Landcare Group



**KCGM**

KCGM means Kalgoorlie Consolidated Gold Mines Pty Ltd, a wholly owned subsidiary of the Company, which operates the Super Pit and Mt Charlotte Underground in Kalgoorlie, Western Australia

**Kg or kg**

Kilogram

**kl**

kilolitre; one thousand litres

**KMP**

Key Management Personnel

**KPI**

Key Performance Indicator

**LGBTQIA+**

Lesbian, gay, bisexual, transgender, intersex, queer/questioning, asexual

**Limited Assurance**

Audit and assurance undertaken by an external auditor on whether the data or statements made in this report have been prepared in accordance with GRI

**LOA**

Life of Asset

**LTIFR**

Lost Time Injury Frequency Rate; calculated based on the number of lost time injuries occurring in a workplace per 1 million hours worked

**M or m**

Million

**MERC**

Mine Emergency Response Competition

**Merger**

The merger of Saracen Mineral Holdings Limited ABN 52 009 215 347 and all of its wholly owned subsidiaries with Northern Star by way of Scheme of Arrangement implemented on 12 February 2021

**Mine Safety Management System**

Northern Star's set of structured policies, procedures and plans used to assist in mitigating and controlling safety and health.

**ML**

Mega-litre; one million litres

**MW**

megawatt; one million watts

**MRF**

Mining Rehabilitation Fund

**NAF**

Non-Acid Forming

**Net Zero**

Net Zero refers to achieving a balance between the amount of operational Scope 1 and Scope 2 greenhouse gas Emissions produced and those removed.

**Net Zero Ambition**

Net Zero Ambition is our ambition to achieve Net Zero by 2050, as expressed in our Climate Change Policy in Appendix C

**NGFS**

Network for Greening the Financial System

**NGO**

Non-Governmental Organisation

**NSMS**

Northern Star Mining Services

**OHS**

Occupational Health and Safety

**Officer**

An officer of the Company defined under the Corporations Act

**Oz**

Ounce

**PAF**

Potentially Acid Forming

**Paris Agreement**

Paris Agreement refers to the legally binding international treaty on climate change which was adopted by 196 Parties at the 21st session of the United Nations Conference of the Parties, in Paris on 12 December 2015, and entered into force on 4 November 2016

**PEP**

Performance Evaluation Process

**PPA**

Power Purchase Agreement

**PPE**

Personal Protective Equipment

**Principal Mining Hazards**

As per the *Work Health and Safety (Mines) Regulations 2002 (Western Australia)*. A principal mining hazard at a mine is any activity, process, procedure, plant, structure, substance, situation or other circumstance relating to the carrying out of mining operations at the mine that has a reasonable potential to result in multiple deaths in

a single incident or a series of recurring incidents.

**RCP**

Representative Concentration Pathway. Greenhouse gas concentration trajectories which provide Emissions constraints and physical outcomes in Climate Change Scenario Analysis

**Report**

This Sustainability Report

**Saracen or SAR**

Saracen Mineral Holdings Limited ABN 52 009 215 347 and all of its wholly owned subsidiaries, as acquired by Northern Star by way of Scheme of Arrangement implemented on 12 February 2021

**SASB**

Sustainability Accounting Standards Board

**Scope 1 Emissions**

Emissions released to the atmosphere as a direct result of an activity, or series of activities at a facility level

**Scope 2 Emissions**

Emissions released to the atmosphere from the indirect consumption of an energy commodity

**Scope 3 Emissions**

Indirect greenhouse gas Emissions other than Scope 2 Emissions that are generated in the wider economy. They occur as a consequence of the activities of a facility, but from sources not owned or controlled by that facility's business

**shareholder**

A shareholder of Northern Star Resources Limited

**SMART**

Specific, Measurable, Attainable, Relevant and Time-Bound

**SMERC**

Surface Mine Emergency Response Competition

**SODAR**

Sonic Detection and Ranging

**stakeholders**

An individual, group or organisation that is impacted by the Company, or has an impact on the Company. Examples of stakeholders are investors, employees, suppliers and local communities

**STARR**

Northern Star's Core Values of Safety,

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Teamwork, Accountability, Respect and Results

**STEM**

Science, Technology, Engineering and Mathematics

**T or t**

Tonnes; one thousand kilograms

**TBO**

Thunderbox Operations

**TCFD**

The Financial Stability Board’s Task Force on Climate-related Financial Disclosures

**TNFD**

The Taskforce on Nature-related Financial Disclosures

**TSF**

Tailings storage facility

**TRIFR**

Total Reportable Injury Frequency Rate; calculated according to the number of reportable work-related injuries or illness for each one million hours worked

**UAF**

University of Alaska Fairbanks

**UMERC**

Underground Mine Emergency Response Competition

**UN**

United Nations

**UN SDGs**

The United Nations Sustainable Development Goals

**Underlying EBITDA**

Net profit after tax, before interest, tax depreciation and amortisation adjusted for specific items.

**US or USA**

United States of America

**WA**

Western Australia

**WASM**

Western Australian School of Mines (Curtin University of Technology)

**WASMA**

Western Australian School of Mines Alumni

**WHS**

Work, Health and Safety

**WIMWA**

Women in Mining Western Australia

**\$**

Australian dollars, unless the context states otherwise. All A\$ to \$US currency conversions used in this Sustainability Report are at \$0.6734

**ASX Listing Rules Disclosures**

The information in this Report that relates to the Ore Reserves and Mineral Resources of Northern Star has been extracted from the ASX release by Northern Star entitled “Resources, Reserves and Exploration Update” dated 31 March 2023 available at [www.nsrld.com](http://www.nsrld.com) and [www.asx.com.au](http://www.asx.com.au) (Northern Star Announcement).

Northern Star confirms that it is not aware of any new information or data that materially affects the information included in the Northern Star Announcement other than changes due to normal mining depletion during the three month period ended 30 June 2023 and, in relation to the

estimates of Northern Star’s Ore Reserves and Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the Northern Star Announcement continue to apply and have not materially changed. Northern Star confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from that announcement.

Rounding is applied in this report for the percentage comparisons and for the 31 March 2023 Ore Reserves and Mineral Resources figures.

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# Corporate Directory

## Directors (as at 30 June 2023)

Michael Chaney AO	Chairman
Stuart Tonkin	Managing Director and CEO
John Fitzgerald	Non-Executive Director
Nick Cernotta	Non-Executive Director
Sally Langer	Non-Executive Director
John Richards	Non-Executive Director
Sharon Warburton	Non-Executive Director
Marnie Finlayson	Non-Executive Director

## Executive KMP

Chief Operating Officer	Simon Jessop
Chief Financial Officer	Ryan Gurner
Chief Legal Officer and Company Secretary	Hilary Macdonald

## Other Leadership Team

Chief Development Officer	Michael Mulroney
Chief Technical Officer	Steven McClare
Chief Geological Officer	Dan Howe
Executive Manager People and Culture	Marianne Dravnieks
General Manager Investor Relations	Sophie Spartalis
General Manager - NSMS	Steven Van Der Sluis
Operations Manager - NSMS	Daniel Boxwell
Maintenance Manager - NSMS	Denis Sucur
Executive Manager Corporate Services	Rebecca Ciotti

## Joint Company Secretary

Senior Legal Counsel & Joint Company Secretary	Sarah Reilly
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# Contact Information

<b>Northern Star Resources Limited</b>	ABN 43 092 832 892
<b>Corporate office</b>	Level 4, 500 Hay Street, Subiaco WA 6008 Australia
<b>Telephone</b>	+61 8 6188 2100
<b>Website</b>	<a href="http://www.nsr ltd.com">www.nsr ltd.com</a>
<b>Email</b>	
ESG Enquiries	<a href="mailto:esgperformance@nsr ltd.com">esgperformance@nsr ltd.com</a>
Investor Relations	<a href="mailto:investorrelations@nsr ltd.com">investorrelations@nsr ltd.com</a>
General Enquiries	<a href="mailto:info@nsr ltd.com">info@nsr ltd.com</a>
Compliance	<a href="mailto:compliance@nsr ltd.com">compliance@nsr ltd.com</a>
<b>ASX Code</b>	NST
<b>Share Registry</b>	Link Market Services Ltd

## Website Supporting Information:

FY23 Performance Data Tables, FY23 GRI, SASB and UN SDG Alignment Index, FY23 Tailings Disclosure Report, FY23 Biodiversity Values

Cover Photo:  
*Employee Photo Submission*  
**Miranda McCarthy**  
Senior Geologist – Resources  
Northern lights over Pogo, Alaska

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[nsrltd.com/sustainability](https://nsrltd.com/sustainability)