



No.1 S.E.R. MODULE
DC PROTECTION SWITCHGE

No.1 S.E.R. MODULE
CONTROL CUBICLE

S.A.G. MILL S.E.R.
VARIABLE SPEED DRIVE

MASTER S.E.R.
CONTROL CUBICLE

Climate Change

Climate Change



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 CO₂-e).

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

50 kt CO₂-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 kt CO₂-e

between 1 July 2021 and 30 June 2025, where 1 July 2021 represents business as usual baseline levels (includes 50 kt CO₂-e by 30 June 2024).

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

150 kt CO₂-e

between 1 July 2021 and 30 June 2026, where 1 July 2021 represents business as usual baseline levels (includes 50 kt CO₂-e by 30 June 2024 and 50 kt CO₂-e by 30 June 2025).

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

200 kt CO₂-e

between 1 July 2021 and 30 June 2027, where 1 July 2021 represents business as usual baseline levels (includes 50 kt CO₂-e by 30 June 2024, 50 kt CO₂-e by 30 June 2025, and 50 kt CO₂-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

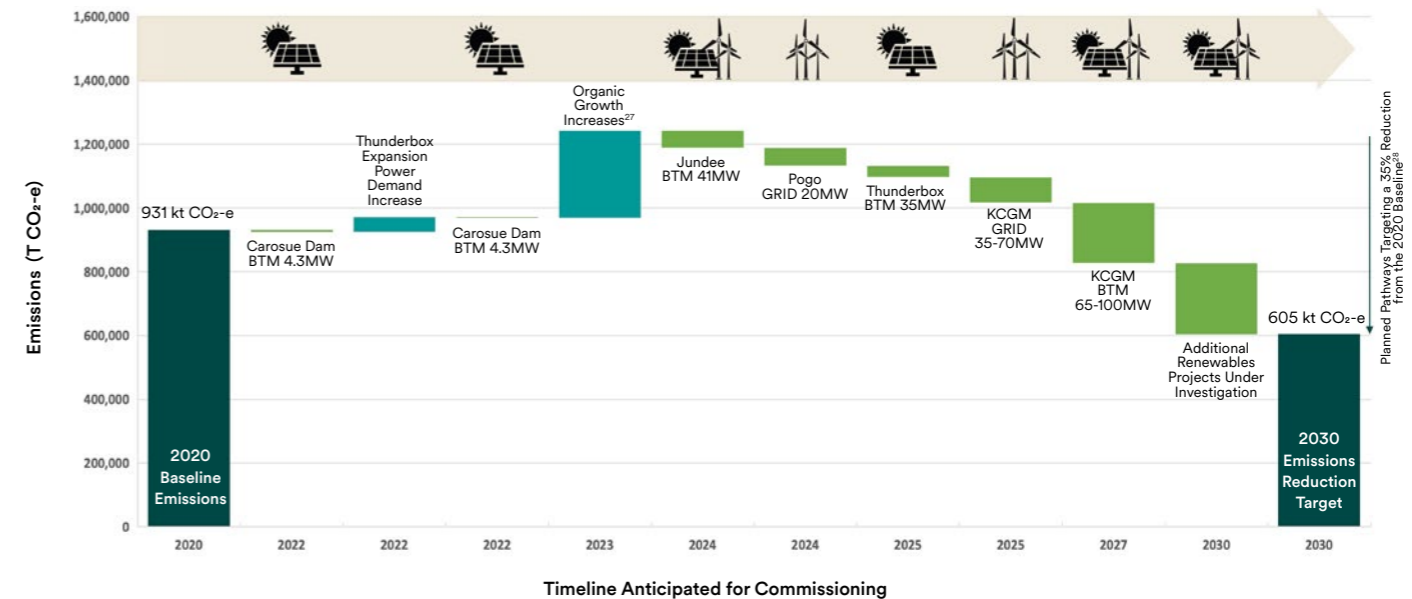
A continued shift to renewables is critical in targeting 35% Emissions Reduction by 2030 and will remain an ongoing focus beyond 2030, as we increase our use of renewable energy and turn to electrification in replacing our mobile fleet to achieve our 2050 Net Zero Ambition.

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 CO₂-e down to approximately 590 kt CO₂-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 CO₂-e) by 2030, on the way to Net Zero Ambition 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 CO₂-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 CO₂-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

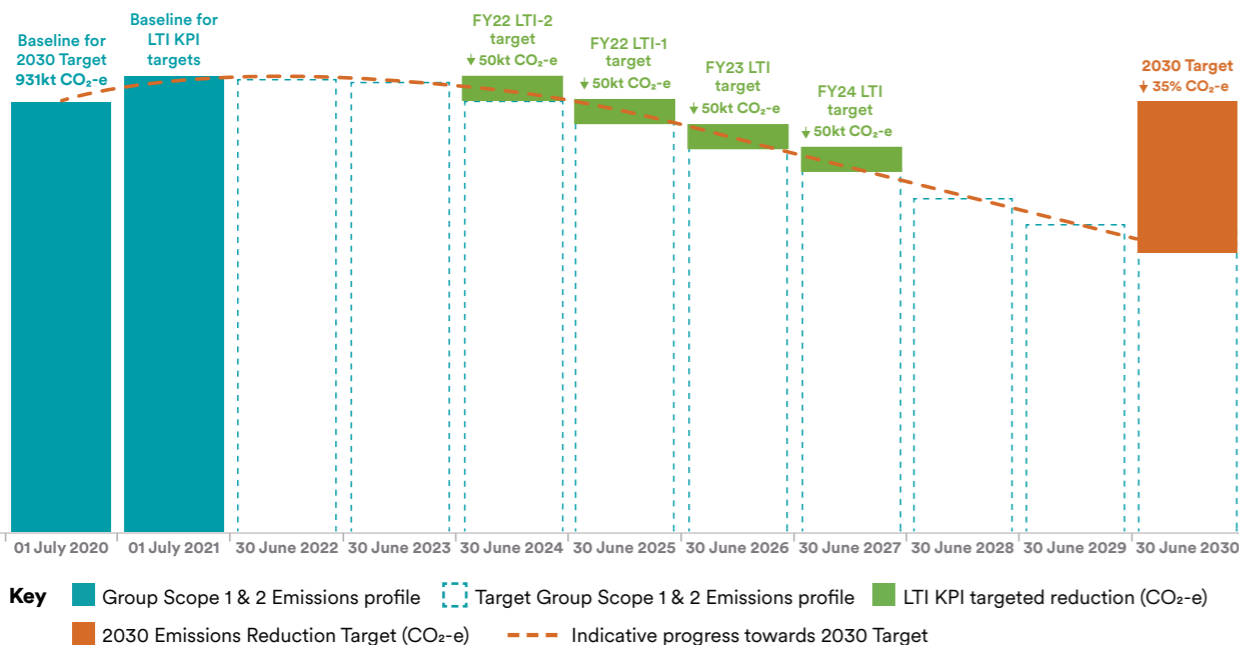
Northern Star's Board has oversight of the physical and transitional risks posed by climate change, assisted by the ESS Committee's review of environmental and social performance risks, and climate change related risks, and the Audit & Risk Committee's review of the Company wide risk register.

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)



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 Recommendations²⁹

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
FY23 Commitments Satisfied: Ongoing disclosure of progress against targets	FY23 Commitments Satisfied: Reviews of risks and mitigating controls in accordance with Risk Management Standard	FY23 Commitments Satisfied: Completed quantitative modelling of key climate risks to estimate financial impacts and guide quantification actions	FY23 Commitments Satisfied: Continued oversight of meeting TCFD recommendations
Planned Action (1-5 years): Ongoing disclosure of progress against targets, and consideration of future metrics and targets	Planned Action (1-5 years): Ongoing reviews of climate-related risks and controls	Planned Action (1-5 years): Integrate implications of scenario analysis into long term strategic planning	Planned Action (1-5 years): Ongoing oversight of governance of climate-related risks and opportunities

29. Taskforce on Climate Related Financial Disclosures, 2017.



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

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

High emissions RCP 8.5	<ul style="list-style-type: none"> • Used to assess the potential impacts of unmitigated climate change. • High atmospheric concentration of GHGs aligned to global warming of between 3°C and 5.4°C by 2100
Moderate emissions Below 2°C & RCP 4.5	<ul style="list-style-type: none"> • Used to assess the impacts of a moderate transition to a low carbon economy and moderate degree of climate change. • 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
Low emissions Divergent Net Zero	<ul style="list-style-type: none"> • Used to assess the impacts of a rapid transition to a low carbon economy. • 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.

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](#)



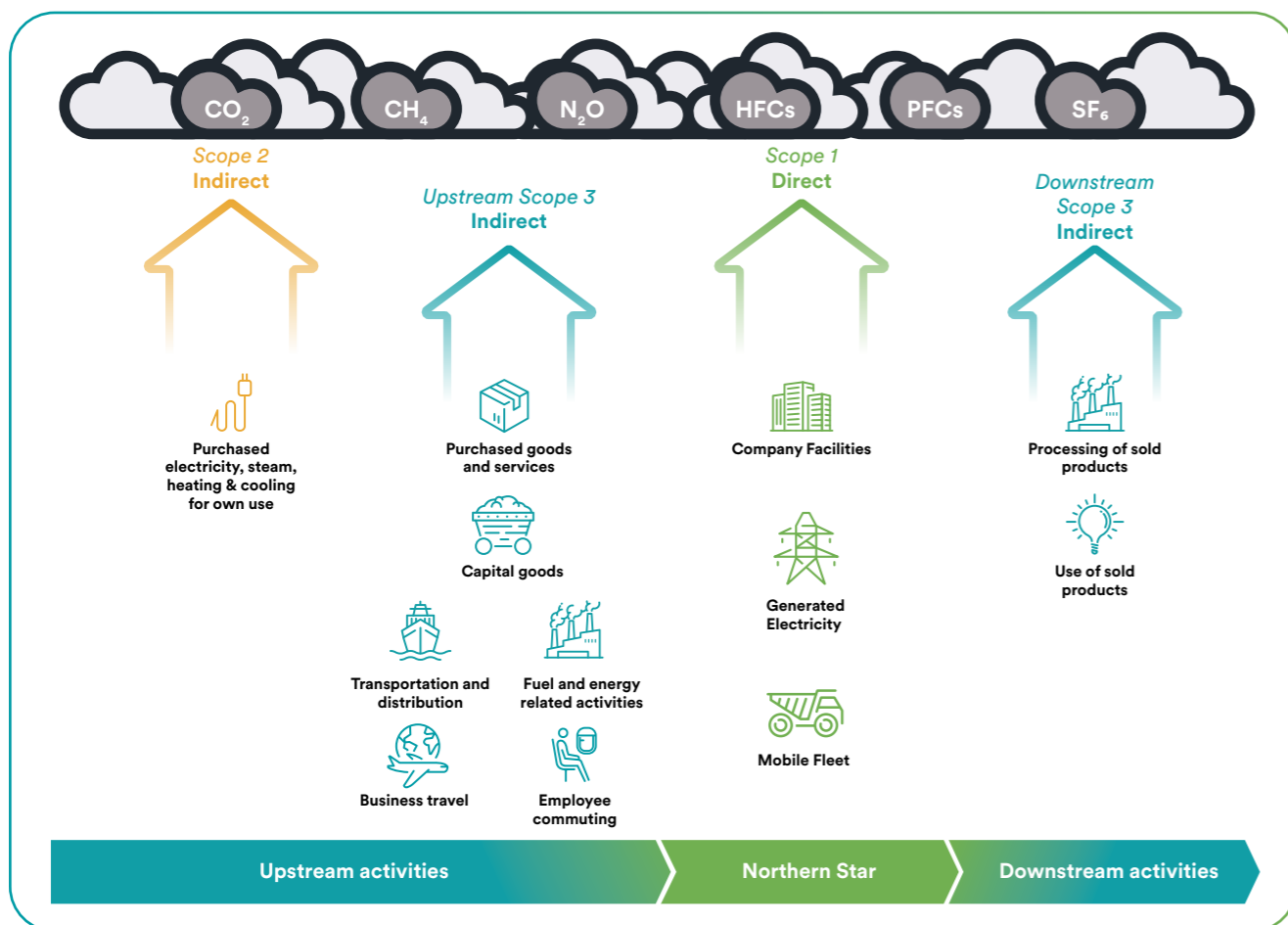
Jake Ziegelaar, Alternate Underground Manager, Ramone Mining, Jundee, Yandal Production Centre, Western Australia) at Jundee solar array under construction.

Carbon Footprint

Northern Star's carbon footprint for FY23 combines our Scope 1, Scope 2 and Scope 3 Emissions totalling 1.85 Mt CO₂-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



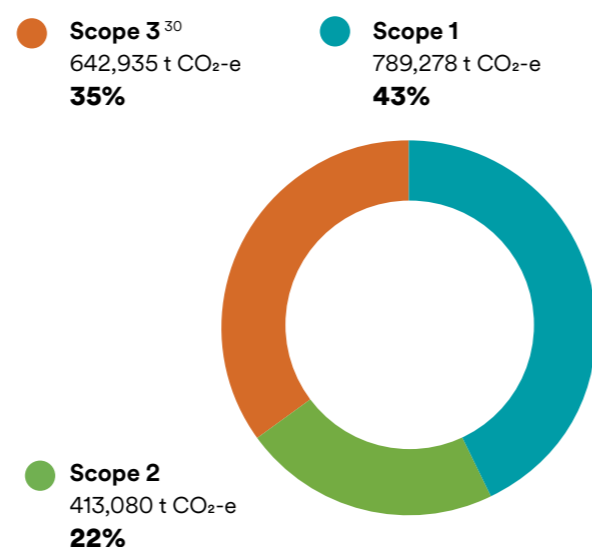
Scope 1 and 2 Emissions

In FY23, our total Scope 1 and Scope 2 GHG Emissions increased from 1,163,635 t CO₂-e in FY22 to 1,202,359 t CO₂-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 CO₂-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.

Table 10 FY23 GHG Emission Profile

	FY23	FY22	FY21
Scope 1 GHG Emissions (t CO ₂ -e)	789,278	677,225	642,225
Scope 2 GHG Emissions (t CO ₂ -e)	413,080	486,410	491,681
Total Scope 1 & 2 Emissions intensity (t CO ₂ -e /t ore processed)	0.045	0.044	0.044

Table 11 Scope 1 & 2 GHG Emissions by Site & Region (t CO₂-e)

Operation	Site	FY23 t CO ₂ -e	FY22 t CO ₂ -e	FY21 t CO ₂ -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 ³¹	N/A	1,363	1,728
	Tanami ³¹	924	1,315	1,147
Other	Corporate	103	121	110
		1,202,359	1,163,635	1,133,906

Safeguard Mechanism

Our Fimiston, Carosue Dam, Jundee and Thunderbox Operations emit more than 100,000 tonnes of CO₂-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 CO₂-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"> Baseline to decline below 100,000 t CO₂-e Safeguard Mechanism threshold by the end of FY25 Utilise multi-year monitoring period to achieve decarbonisation initiatives Baseline to transition to a production-adjusted baseline
Thunderbox Operations	213,075	<ul style="list-style-type: none"> Baseline to transition to a production-adjusted baseline by 31 October 2023
KCGM Operations	238,394	<ul style="list-style-type: none"> Baseline to transition to a production-adjusted baseline by 30 April 2024
Jundee Gold Mine	173,116	<ul style="list-style-type: none"> Baseline to transition to a production-adjusted baseline by 30 April 2024

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.

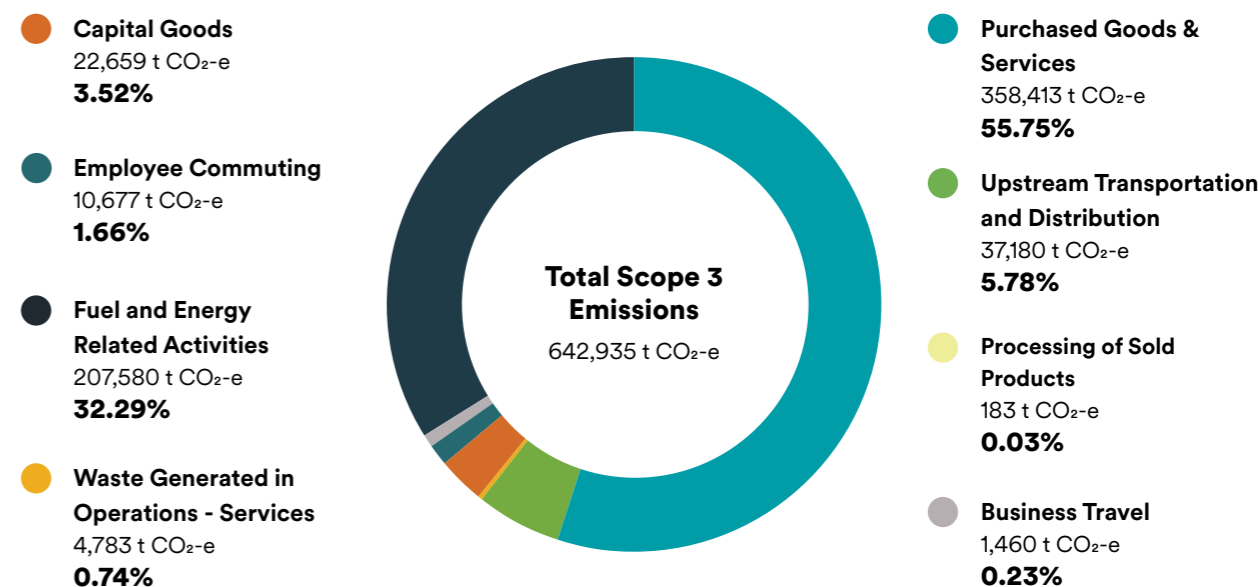
Calculated Scope 3 Emissions

The highest contribution to our Scope 3 emissions, based on currently available data, is from purchased goods and services at 358 kt CO₂-e, followed by fuel and energy related activities at 208 kt CO₂-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 ³²
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)
Category 6: Business Travel & Category 7: Employee Commuting	Average data method	Not utilised
	Fuel based method	Not utilised
Category 10: Processing of Sold Products	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
	Site specific method	1. Survey – Perth Mint quantity and emission factor
	Average data method	Not utilised

Figure 27 FY23 Scope 3 Emissions by Source³³



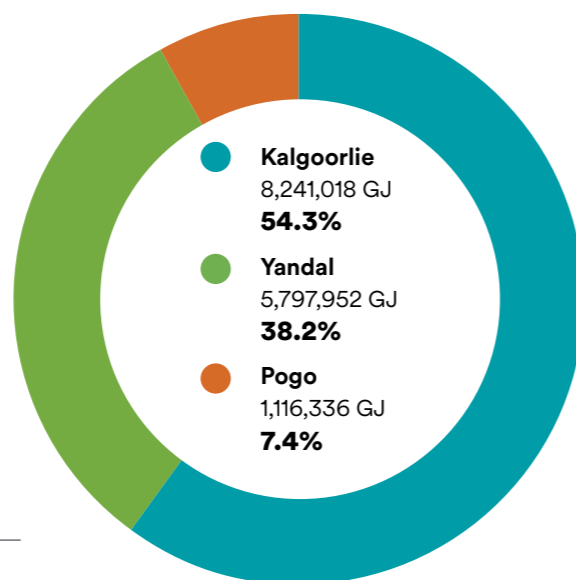
32. Factors Used:
 - NGA - <https://www.dceew.gov.au/climate-change/publications/national-greenhouse-accounts-factors-2022>
 - UK Factors - <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023>
 - US EPA Factors - <https://edg.epa.gov/metadata/catalog/search/resource/details.page?uuid=https://doi.org/10.23719/1524744>
 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 Centre³⁴



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



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

Table 14 Energy Produced³⁵

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 ³⁶	N/D	7,037	8,720
	Tanami ³⁶	-	-	-
Other	Corporate	-	-	-
		1,966,322	1,785,953	1,764,222

Table 15 Net Energy Consumed³⁷

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 ³⁶	N/D	19,411	24,594
	Tanami ³⁶	13,165	18,729	16,333
Other	Corporate	728	643	580
		15,169,199	13,334,341	12,809,757

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.