

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

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 and active investment in exploration.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date

July 1 2022

End date

June 30 2023

Indicate if you are providing emissions data for past reporting years

Yes

Select the number of past reporting years you will be providing Scope 1 emissions data for

3 years

Select the number of past reporting years you will be providing Scope 2 emissions data for

3 years

Select the number of past reporting years you will be providing Scope 3 emissions data for

2 years

C0.3

(C0.3) Select the countries/areas in which you operate.

Australia

United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

AUD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Financial control

C-MM0.7

(C-MM0.7) Which part of the metals and mining value chain does your organization operate in?

Row 1

Mining

Gold

Processing metals

Gold

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
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C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	The key responsibilities of the Environmental, Social & Safety (ESS) Committee (Committee) are to assist the Board in implementing ESS strategies and ensuring responsible and sustainable business practices, and oversight of workplace health & safety, environmental management including climate change, community & social responsibility, business ethics and long term ESS strategic goals. The Committee comprises at least three Directors of which two must be independent non-executive Directors. The Chair of the Committee is an independent non-executive Director with sufficient related experience, appointed by the Board from the Committee's members and will not be the Chair of the Board. At 30 June 2023, the Committee comprised Sally Langer (Chair), Sharon Warburton and Marnie Finlayson.
Board Chair	Independent Chair responsible for leadership of the Board.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	<ul style="list-style-type: none"> Reviewing and guiding annual budgets Overseeing acquisitions, mergers, and divestitures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Overseeing the setting of corporate targets Monitoring progress towards corporate targets Reviewing and guiding the risk management process 	<Not Applicable>	<p>The ESS Committee is responsible for reviewing the climate change risk register twice yearly, reviewing the ESS risk register annually and reviewing the ESS strategy annually.</p> <p>The People & Culture Committee reviews and makes recommendations to the Board in relation to Key Management Personnel and other executives in respect of remuneration policy and its link to performance. In FY23, the remuneration framework included a policy objective to focus on positive ESG outcomes, which included a focus on achieving an absolute reduction in greenhouse gas emissions in the 20% weighted KPI for the FY23 long term incentive (LTI) grant (measurement period 1 June 2022 to 30 June 2026), as follows:</p> <p>KPI: Demonstrate tangible, sustainable Scope 1 and 2 carbon Emissions Reductions of 150,000 tonnes CO2 equivalent between 1 July 2022 and 30 June 2026 below business as usual levels. 1 July 2021 represents business as usual baseline levels.</p> <p>For the avoidance of doubt the 150,000 t (CO2 equivalent) target for the FY23 LTI will take into account any aggregated reduction achieved under the FY22 LTI-2 by end of FY24, and LTI-1 KPI by end of FY25.</p> <p>In addition, the FY23 short term incentive (STI) grant (measurement period 1 July 2022 to 30 June 2023) included a 5% weighted KPI requiring: "Nil materially adverse community, heritage or environmental incidents" generally.</p>

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	In FY22, an in-depth analysis of the Board's skills and experience was undertaken, by each Non-Executive Director (NED) completing a self-assessment against 69 skills, grouped into 9 categories, from 'Limited' to 'Expert'. The Sustainability skill category covered climate change, with the NEDs collectively scoring in the second quartile (62 out of 100) for this category, meaning the average NED had 'Advanced' skills and/or experience with climate change. The Board skills matrix is being reviewed again in FY23, with results to be disclosed in the FY23 Annual Report. However, given 6 out of 7 Non-Executive Directors that undertook the FY22 Board skills matrix remain on the Board (as at end of FY23), the FY22 disclosed matrix is informative of current Board competence on climate-related issues.	<Not Applicable>	<Not Applicable>

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee

Other C-Suite Officer, please specify (Managing Director and Chief Executive Officer)

Climate-related responsibilities of this position

Managing annual budgets for climate mitigation activities
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

Other, please specify (Reports to the Chairman of the Board directly)

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

The Managing Director and Chief Executive Officer is responsible for running the affairs of the Company under delegated authority from the Board and to implement the policies and strategy set by the Board.
Senior management supports the Managing Director and Chief Executive Officer with the Company's business operations, finances and ESG performance, in accordance with the delegated authority of the Board.

Position or committee

Other C-Suite Officer, please specify (Chief Legal Officer and Company Secretary)

Climate-related responsibilities of this position

Other, please specify (Disclosure in relation to the following: climate-related corporate targets; monitoring of progress against climate-related corporate targets; assessing and managing climate-related risks and opportunities)

Coverage of responsibilities

<Not Applicable>

Reporting line

Other, please specify (Managing Director and CEO reporting line)

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

The Chief Legal Officer and Company Secretary's portfolio includes climate-related reporting and disclosure responsibilities.
The corporate ESG Engagement and Environmental teams report to this position.

Position or committee

Other C-Suite Officer, please specify (Chief Technical Officer)

Climate-related responsibilities of this position

Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Conducting climate-related scenario analysis
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

Other, please specify (Managing Director and CEO reporting line)

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

The Chief Technical Officer's portfolio includes the identification of opportunities to reduce emissions, and the planning for and execution of decarbonisation actions.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Our FY22 and FY23 remuneration frameworks reflect our commitment to reducing our absolute Scope 1 and Scope 2 carbon Emissions, by focusing on the introduction of projects which will have the effect of sustained annualised absolute Emissions Reductions year on year from end of FY24, FY25 and FY26.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive

Management group

Type of incentive

Non-monetary reward

Incentive(s)

Other, please specify (Performance rights which may be exercised into shares if the Key Performance Indicators are met, including decarbonisation KPI)

Performance indicator(s)

Reduction in absolute emissions

Incentive plan(s) this incentive is linked to

Long-Term Incentive Plan

Further details of incentive(s)

The following LTI KPIs are disclosed on pages 83 and 87 of Northern Star's FY22 Annual Report:

FY22 LTI-2 Performance Rights (8% weighting) - for measurement on 30 June 2024

Demonstrate tangible, sustainable Scope 1 and 2 carbon emissions reductions of 50,000 tonnes CO2 equivalent by end of FY24 below business as usual levels (i.e. levels at 1 July 2021).

FY22 LTI-1 Performance Rights (10% weighting) - for measurement on 30 June 2025

Demonstrate tangible, sustainable Scope 1 and 2 carbon emissions reductions of 100,000 tonnes CO2 equivalent by end of FY25 below business as usual levels (i.e. levels at 1 July 2021).

FY23 LTI Performance Rights (20% weighting) - for measurement on 30 June 2026

Demonstrate tangible, sustainable Scope 1 and 2 carbon emissions reductions of 150,000 tonnes CO2 equivalent by end of FY26 below business as usual levels (i.e. levels at 1 July 2021).

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Northern Star's organisation targets are underpinned by the Company's climate change strategy, its decarbonisation pathway and the specific GHG emissions organisational performance metrics in Northern Star's LTI KPIs reported in the FY22 Annual Report (pages 83 & 87).

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	1	3	Horizons as defined in our TCFD recommendations phased alignment.
Medium-term	3	5	Horizons as defined in our TCFD recommendations phased alignment.
Long-term	5		Horizons as defined in our TCFD recommendations phased alignment.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Northern Star has in place a Risk Management Standard (NSR-COR-019A-STA) containing Risk Assessment Criteria relevant to the consequence and likelihood of occurrence of events.

- An event with a major financial consequence to the company is defined as a financial loss of \$20M - \$100M.
- An event with a catastrophic financial consequence to the company is defined as a financial loss of >\$100M.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations

Risk management process

A specific climate-related risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

Northern Star commenced a strategic alignment with the recommendations of the Taskforce on Climate-Related Financial Disclosure (TCFD) in CY2019, and completed a comprehensive disclosure of its climate risk management processes with the assistance of external consultants. We have continued to disclose our climate related risk assessment work in our CY20, CY21, FY22 and FY23 Sustainability Reports. Key achievements completed to date include:

- Undertook qualitative scenario analysis
- Comprehensive disclosure of climate risk management roles, responsibilities and processes
- Climate Change Risk register for comprehensive climate-related risk and opportunities identification, review (twice yearly by the ESS Committee) and disclosure
- Identified next steps for strengthening risk mitigation
- Adoption of a Climate Change Policy, Hired Chief Technical Officer to increase Executive capacity for growth projects and execution of decarbonisation actions
- Net Zero Ambition (released July 2021)
- Target 35% Reduction in Scope 1 and Scope 2 GHG Emissions from FY20 baseline by 2030 (released February 2022)
- Developed a climate risk financial quantification model to be able to quantify the financial impacts to the business of Northern Star's top four climate -related risks

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Regulation risks are regularly reviewed and reassessed in the company risk registers.
Emerging regulation	Relevant, always included	Emerging regulation risks are reviewed and assessed as information comes available for inclusion.
Technology	Relevant, always included	Technology is included in the controls in addition to technological risks and integration.
Legal	Relevant, always included	Legal risks are regularly reviewed and reassessed in the company risk registers.
Market	Relevant, always included	Market risks are regularly reviewed and reassessed in the company risk registers.
Reputation	Relevant, always included	Reputation risks are regularly reviewed and reassessed in the company risk registers.
Acute physical	Relevant, always included	Acute physical risks are regularly reviewed and reassessed in the company risk registers.
Chronic physical	Relevant, always included	Longer term (chronic) risks are assessed and considered in the company risk register, but intensive and detailed reviews are undertaken on a reduced frequency due to the time frame of change.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Precipitation and/or hydrological variability
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Climate change could result in decreased average total annual rainfall causing drier surface conditions and underground aquifers to be replenished slowly. This would impact on operations that source drinking and operational water from aquifers.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

5095287

Explanation of financial impact figure

The potential financial impact has been modelled based on a gold price of AUD 3000 per ounce and using the RCP 8.5 climate scenario for the year 2031 (aligned with long-term definition) relevant to all assets. The figure represents the potential change in total water costs due to changes in average annual rainfall. RCP 8.5 is representative of Northern Star's Climate Scenario 3 'Regressive Action' described in Appendix B of our CY20 Sustainability Report: <https://www.nsr ltd.com/investor-and-media/asx-announcements/2021/february/2020-sustainability-report>

Cost of response to risk**Description of response and explanation of cost calculation**

The cost of response specific to RCP 8.5 for the year 2030 has not been calculated

Comment

Key control measures include:

- Third party annual and triennial reviews of usage and aquifer health at WA sites
- Recycled water use with underground and processing
- Decant water from tailings facilities for reuse in all our operating process plants
- Completed thickener installation at existing operations and consider thickeners at all new or expanding sites
- Setting water intensity reduction targets
- Develop group water security strategy (incl. identification of consumption metrics, water efficiency opportunities and baseline data/targets)
- Investigate water storage evaporation reduction at water negative sites.
- Investigate construction of supplementary borefields at applicable sites
- Consider open pit resources for water harvesting opportunities
- Monitoring at all sites
- Site specific water balances maintained

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Changing precipitation patterns and types (rain, hail, snow/ice)
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Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

In Western Australia, rainfall is becoming more concentrated and cyclones more severe; in Alaska, total rainfall is increasing and permafrost melting off-site, both pointing to an increase in the frequency and severity of floods

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

4049777

Potential financial impact figure – maximum (currency)

4626201

Explanation of financial impact figure

The potential financial impact has been modelled based on a gold price of AUD 3000 per ounce and using the RCP 8.5 climate scenario for the year 2028 (aligned with medium-term) and for all assets. The figure represents the financial impact range related to physical disruption to operations due to changes in rainfall and flooding events. RCP 8.5 is representative of Northern Star's Climate Scenario 3 'Regressive Action' described in Appendix B of our CY20 Sustainability Report: <https://www.nsr ltd.com/investor-and-media/asx-announcements/2021/february/2020-sustainability-report>

Cost of response to risk**Description of response and explanation of cost calculation**

The cost of response specific to RCP 8.5 for the year 2028 has not been calculated

Comment

Key control measures include:

- Flood/inrush management included in site based management plans
- Surface water management infrastructure installed at all sites (e.g. diversion ditches, bunds)
- Water level monitoring of key infrastructure
- Water pond monitoring of TSFs
- Severe Weather and Cyclone Management Plans and Procedures in place
- Scenario analysis completed as per TCFD recommendations
- Flood mitigation infrastructure review
- Update and review current risk profile of storm events
- Set a minimum standard on the level of buffer/contingency to be retained at sites for key processing consumables and diesel
- Review flood mitigation infrastructure for each site
- Identify water storage areas onsite to handle and store increased water prior to treatment/disposal.
- Asset review to ensure contingency equipment (e.g. dewatering pumps) on site is suitable, available and still in working order

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Changing temperature (air, freshwater, marine water)
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Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The effects of climate change will see a higher frequency of extreme hot and extreme cold days across our areas of operations.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

368483

Potential financial impact figure – maximum (currency)

1355258

Explanation of financial impact figure

The potential financial impact has been modelled based on a gold price of AUD 3000 per ounce and using the RCP 8.5 climate scenario for the year 2028 (aligned with medium term) and for all Northern Star assets. The figure represents the potential financial impact range related to a combination of lost or delayed revenue due to modified

work conditions under high bulb globe temperatures, combined with the change in energy costs associated with ventilation and air-conditioning as temperatures rise. RCP 8.5 is representative of Northern Star's Climate Scenario 3 'Regressive Action' described in Appendix B of our CY20 Sustainability Report: <https://www.nsrld.com/investor-and-media/asx-announcements/2021/february/2020-sustainability-report>

Cost of response to risk

Description of response and explanation of cost calculation

The cost of response specific to RCP 8.5 for the year 2028 has not been calculated

Comment

Key control measures include:

- Working in Adverse Temperature Conditions guideline and procedures
- Regular hydration testing completed at all sites during high risk months
- Heat shields and structures around sensitive mill infrastructure
- Use of suitably rated lubricants, oils and equipment for extreme temperature environments
- Majority of onsite buildings, mobile plant and vehicles fitted with enclosed cabs and heating/air conditioning
- Review of continuous monitoring of underground environmental conditions to supplement use of handheld Kestrel devices
- Consider cooling systems for underground ventilation
- Consider enhanced ventilation systems

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Returns on investment in low-emission technology

Company-specific description

Climate related opportunities identified by Northern Star in relation to "Energy Sources", as disclosed in our CY2021 Sustainability Report included:

- Carbon trading
- Trade off excess renewable energy
- Renewable Energy & Energy Efficiency Certificates
- Energy price volatility resilience
- Diversification of energy sources
- Renewable backup generation

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

Comment

For more information on Northern Star key climate change related opportunities, please refer to page 59 of our CY2021 Sustainability Report (<https://www.nsrld.com/investor-and-media/asx-announcements/2022/february/2021-sustainability-report>)

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Returns on investment in low-emission technology

Company-specific description

Climate related opportunities identified by Northern Star in relation to "Products & Services", as disclosed in our CY2021 Sustainability Report included:

- Increase in gold demand
- Low emissions mining
- Diversification into low emissions technology commodities
- Ethical gold certification

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost to realize opportunity****Strategy to realize opportunity and explanation of cost calculation****Comment**

For more information on Northern Star key climate change related opportunities, please refer to page 59 of our CY2021 Sustainability Report (<https://www.nsrld.com/investor-and-media/asx-announcements/2022/february/2021-sustainability-report>)

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Climate related opportunities identified by Northern Star in relation to "Resource Efficiency", as disclosed in our CY2021 Sustainability Report included:

- Lower input tailings treatment
- Reducing water consumption
- Increased operating efficiency
- Electrification of operations
- Track climate performance
- Daily hydration testing undertaken at Australian operations.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost to realize opportunity****Strategy to realize opportunity and explanation of cost calculation****Comment**

For more information on Northern Star key climate change related opportunities, please refer to page 59 of our CY2021 Sustainability Report (<https://www.nsr ltd.com/investor-and-media/asx-announcements/2022/february/2021-sustainability-report>)

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resilience

Primary climate-related opportunity driver

Participation in renewable energy programs and adoption of energy-efficiency measures

Primary potential financial impact

Other, please specify

Company-specific description

Climate related opportunities identified by Northern Star in relation to "Resilience", as disclosed in our CY2021 Sustainability Report included:

- Improve social licence to operate
- Improved employee safety and satisfaction
- Community resilience initiatives
- Joint venture partnership collaborations
- Reinforce assets to increase resilience to physical impacts
- Renewable energy to maintain power quality
- Diversify operation locations
- Diversify supply chain
- Monitor and communicate weather conditions
- Consider climate change in environmental management
- Determine retreat thresholds
- Emerging gold processing techniques

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost to realize opportunity****Strategy to realize opportunity and explanation of cost calculation****Comment**

For more information on Northern Star key climate change related opportunities, please refer to page 59 of our CY2021 Sustainability Report (<https://www.nsr ltd.com/investor-and-media/asx-announcements/2022/february/2021-sustainability-report>)

Identifier

Opp5

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Markets

Primary climate-related opportunity driver

Other, please specify

Primary potential financial impact

Other, please specify

Company-specific description

Climate related opportunities identified by Northern Star in relation to "Markets", as disclosed in our CY2021 Sustainability Report included:

- Action and disclosure to increase stakeholder confidence
- Action and disclosure to access to capital for adaptation
- Incorporate climate change criteria in decision making
- Favourable financing for green assets

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure**Cost to realize opportunity****Strategy to realize opportunity and explanation of cost calculation****Comment**

For more information on Northern Star key climate change related opportunities, please refer to page 59 of our CY2021 Sustainability Report (<https://www.nsrtd.com/investor-and-media/asx-announcements/2022/february/2021-sustainability-report>)

C3. Business Strategy**C3.1****(C3.1) Does your organization's strategy include a climate transition plan that aligns with a 1.5°C world?****Row 1****Climate transition plan**

No, our strategy has been influenced by climate-related risks and opportunities, but we do not plan to develop a climate transition plan within two years

Publicly available climate transition plan

<Not Applicable>

Mechanism by which feedback is collected from shareholders on your climate transition plan

<Not Applicable>

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

Attach any relevant documents which detail your climate transition plan (optional)

<Not Applicable>

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future

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

Since announcing our Net Zero Ambition on 22 July 2021, in February 2022 we outlined our decarbonisation strategy and pathway for achieving our 2030 Emissions Reduction Targets of 35% reduction in Scope 1 and Scope 2 Emissions on the way to achieving Net Zero operational Emissions by 2050. As we implement our decarbonisation strategy and pathway, we will continually assess the need to further develop a transition plan.

We have formulated and engaged with investors on our decarbonisation strategy.

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative, but we plan to add quantitative in the next two years	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Physical climate scenarios RCP 8.5	Company-wide	<Not Applicable>	<p>Northern Star Resources Scenario 3 'Regressive action'</p> <p>Basis for use was to investigate a pathway consistent with worst-case climate change outcomes.</p> <p>RCP 8.5 is commonly used by peers, which increases the comparability of results for external stakeholders.</p> <p>SSP5 used as a reference point.</p> <p>Key parameters:</p> <ul style="list-style-type: none"> - Global temperature range (2100) = >4 degrees Celsius - Australian temperature range (2050) = ~2 degrees Celsius - Projected GDP (2050) = ~8.8 trillion - Global population (2050) = 8.6 billion - Australian population (2050) 44.2 million <p>Connections across a greater portion of the population in developed and emerging economies through the digital revolution increasingly facilitate access to education and enable discourse and collaboration. In this highly globalised society, investments in health and education are favoured to support human capital and drive innovation and economic growth. With equality and comfort pursued at all costs and no environmental focus, there is a global exploitation of fossil fuel resources and a widespread adoption of resource and energy intensive lifestyles. Regulation is minimised so as not to shackle progress. The retail market and technology applications become increasing sources of gold demand, particularly as the global population and economic growth thrive. With increases in wealth and with inflationary pressures present in the economy, there may be an increase in demand for gold as a store of value. While the gold price may be relatively lower in this scenario, it may be more stable due to global integration and focus on growth. In this free-for-all world, large companies take over and maximise new developments. The burden of adaptation and safety measures is increasing, with implications for existing mining companies' reputation, while also presenting barriers to entry for new market entrants. A focus is placed on automation and digitisation to enhance safety and convenience and compete with peers.</p> <p>Please refer to our CY2020 Sustainability Report for further information on our Climate Change Scenario Analysis work (https://www.nsr ltd.com/investor-and-media/asx-announcements/2021/february/2020-sustainability-report)</p>
Physical climate scenarios RCP 4.5	Company-wide	<Not Applicable>	<p>Northern Star Resources Scenario 2 'Passive response'</p> <p>Basis for use was to explore mid-range emissions and warming which is broadly aligned with countries' current emission pledges.</p> <p>RCP 4.5 is commonly used by peers, which increases the comparability of results for external stakeholders.</p> <p>SSP3 used as a reference point.</p> <p>Key parameters:</p> <ul style="list-style-type: none"> - Global temperature range (2100) = 2 - 3 degrees Celsius - Australian temperature range (2050) = ~1.5 degrees Celsius - Projected GDP (2050) = ~2.8 trillion - Global population (2050) = 9.9 billion - Australian population (2050) 28.5 million <p>Financial crises in major economies reinforce and spread distrust in globalisation. Protectionist and national security issues slowly take priority over environmental protection. Demand for local goods increases, putting upward pressure on inflation. In the longer term, more stringent regulation comes into play, including climate policy, to safeguard national resources. The mining sector becomes affected by decreased globalisation and policy which aims to protect upstream supply chains and retain a greater share of returns in Australia. In this anaemic economic environment, there may be greater turnover of existing gold assets as holders liquidate their investment to cash as economic conditions become more challenging. Stunted per capita wealth may reduce retail demand for newly produced gold and, as technology investment is reduced, the potential and breadth of gold applications may be lower in this scenario. However, global population growth is high (particularly in Asia), becoming the main driver of jewellery and technology demand. Additionally, in an environment of greater uncertainty and with inflationary pressures, gold is likely to be increasingly sought for hedging purposes. Central banks may diversify their monetary reserves, accumulating gold. Overall, these diverging pressures may contribute to a larger range of gold prices as volatility increases. In addition to growing regulatory red tape and climate impacts, there is a widespread push for producers to lower costs and hedge output. Lower tendency to extend life of mine to minimise the risk exposure due to gold price volatility. Increased geopolitical tensions may increase international shipping costs. Companies are evaluated on their contribution to local GDP and their compliance with regulation.</p>

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Physical climate scenarios	RCP 2.6	Company-wide	<Not Applicable>	<p>Northern Star Resources Scenario 1 'Proactive effort'</p> <p>Basis for use was to investigate a 2 degrees celsius pathway aligned with the Paris Agreement goal and TCFD requirements.</p> <p>RCP 2.6 is commonly used by peers, meets the TCFD requirements for a low emissions scenario and has greater data availability.</p> <p>SSP1 used as a reference point.</p> <p>Key parameters:</p> <ul style="list-style-type: none"> - Global temperature range (2100) = <2 degrees Celsius - Australian temperature range (2050) = ~1 degree Celsius - Projected GDP (2050) = ~5 trillion - Global population (2050) = 8.5 billion - Australian population (2050) 36.6 million <p>Environmental degradation and accumulating impacts from climate-related events lead to increased environmental awareness and concern. An increased focus on managing climate change risk and capturing opportunity influences investors, business, governments, and public opinion. This drives more sustainable policy, practices, and investments, both in terms of environmental and social outcomes. As the world embraces the scale of the transformation required, large investments are made into research and development, facilitating innovation, and helping to commercialise low emissions technology more rapidly. Consumption patterns shift as the population becomes less materialistic and may impact the retail demand for gold. Gold's role as a portfolio diversifier and hedge in times of uncertainty remains, with limited potential for growth. However, there would be increased opportunities for sustainable gold for environmental and medical technologies. There is a strong focus on reducing emissions, minimising environmental footprints, and improving rehabilitation practices in the mining sector. Investors become increasingly selective, backing companies with clear and transparent pathways towards decarbonisation and increasing engagement with the outliers. There may be consolidation of mining sector companies in these conditions, as newer and smaller entrants find it more difficult to compete in the face of relatively stable gold demand and high public and investor expectations.</p>

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

Northern Star used the climate-related scenario analysis as a strategic planning and risk management tool to explore the following three questions:

- (1) What is the potential financial effect of climate-related change on Northern Star's operations?
- (2) Is Northern Star's business strategy flexible and does it adequately accommodate the identified climate-related risks and opportunities?
- (3) How resilient is Northern Star's business strategy, and where necessary, what options are there for increasing Northern Star's strategic and business resiliency to plausible climate-related risks and opportunities, by making adjustments to strategic and financial plans?

Results of the climate-related scenario analysis with respect to the focal questions

Based on Northern Star's current operations and business strategy performance, each of the three scenarios identified advantages and reputational benefits to Northern Star as well as vulnerabilities that Northern Star would be exposed to and gaps that Northern Star would need to address. The three scenarios also provided insights to strategy adjustments Northern Star would need to make relevant to the scenario impacts on the mining sector and on gold by 2030 and by 2050.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Evaluation in progress	Northern Star's decarbonisation pathway is focussed on measures to reduce reliance on fossil fuels used for electricity generation and increase control over the use of renewables, including wind and solar.
Supply chain and/or value chain	Evaluation in progress	There is a significant reliance on the supply of goods and services to enable the delivery of operations and development projects. Disruption in supply chain from natural events and other causes is recognised as a medium risk requiring control effectiveness improvements.
Investment in R&D	Yes	<p>While multiple decarbonisation studies are underway targeting the electricity generation that underpins our 2030 goals, mobility related emissions are our next key focus area. Northern Star is investing in enabling development projects, such as the BluVein initiative to develop solutions that deliver reductions in mobility emissions.</p> <p>Northern Star are also undertaking studies on potential offset projects, including but not limited to, studies to confirm the eligibility of selected pastoral leases for Human Induced Regeneration (HIR). This fits with our preferred approach to generate offsets, such as carbon sequestration projects, from within local communities and with stakeholder involvement, to benefit our stakeholders.</p>
Operations	Yes	Northern Star's annual operational risk assessments now include the consideration of climate-related risks and opportunities relevant to each site. Northern Star's decarbonisation pathway is focussed on measures to reduce reliance on fossil fuels used for electricity generation and increase control over the use of renewables, including wind and solar.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Direct costs Indirect costs Capital expenditures	<p>The influence of climate-related risks and opportunities on Northern Star's financial planning includes planning for direct and indirect costs to align with the TCFD recommendations and to implement Northern Star's decarbonisation strategy and pathway for achieving our 2030 Emissions Reduction Target of 35% reduction in Scope 1 and Scope 2 Emissions on the way to achieving Net Zero operational Emissions by 2050. Indirect costs include salaries and external consultancy costs while direct cost and capital expenditure considerations include integrating current and future renewables and storage technology to maintain momentum in reduction of Scope 1 and Scope 2 Emissions. Direct costs also include financial costs associated with the physical and other impacts (and associated responses) of climate-related events, including for example heavy rainfall and flooding, and extreme temperatures.</p> <p>Northern Star has also developed in-house capabilities to model our sites' power and energy demand, wind efficiency and timing, and solar efficiency and timing. Through this work, we are developing a financial model for each of our five operations where we anticipate commissioning renewables.</p>

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	No, but we plan to in the next two years	<Not Applicable>

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

No target

C4.1c

(C4.1c) Explain why you did not have an emissions target, and forecast how your emissions will change over the next five years.

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	<p>Reductions in absolute carbon emissions are included in the long-term performance rights Key Performance Indicators (KPIs) for the Northern Star Group senior management team, as shown below. Northern Star's FY22 Long Term Incentives (LTI) Key Performance Indicators (KPIs) (4-year and 3-year performance period) include the following targets for reducing absolute carbon equivalent emissions from existing fixed asset levels: LTI-1 – reduce absolute carbon emissions by 100,000t (CO2 equivalent) by end of FY25 on a sustaining annualised basis LTI-2 – reduce absolute carbon emissions by 50,000t (CO2 equivalent) by end of FY24 on a sustaining annualised basis.</p> <p>Northern Star's FY23 LTI KPIs (4 year performance period from 1 July 2022 to 30 June 2026) includes the following target for reducing absolute carbon emissions: Demonstrate tangible, sustainable Scope 1 and 2 carbon Emissions Reductions of 150,000 tonnes CO2 equivalent between 1 July 2021 and 30 June 2026 below business as usual levels.</p>	<p>Northern Star's FY22 remuneration framework reflected our commitment to reducing our absolute Scope 1 and Scope 2 carbon Emissions by focusing on the introduction of projects which will have the effect of sustained annualised absolute Emissions Reductions year on year. This objective has continued to be reflected in our FY23 remuneration framework.</p> <p>These targets form part of Northern Star's decarbonisation strategy and pathway for achieving our 2030 Emissions Reduction Targets of 35% reduction in Scope 1 and Scope 2 Emissions on the way to achieving Net Zero operational Emissions by 2050.</p>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Net-zero target(s)

Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2022

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Other, please specify	Other, please specify (Scope 1 & 2 Emissions Reduction)
-----------------------	---

Target denominator (intensity targets only)

<Not Applicable>

Base year

2020

Figure or percentage in base year

931362

Target year

2030

Figure or percentage in target year

590058

Figure or percentage in reporting year

% of target achieved relative to base year [auto-calculated]

<Calculated field>

Target status in reporting year

Underway

Is this target part of an emissions target?

Northern Star is pursuing the planned strategic pathway shown below 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 931ktCO₂-e down to approximately 590 kt CO₂-e.

Is this target part of an overarching initiative?

Other, please specify (This target forms part of Northern Star's decarbonisation pathway on the way to achieving our ambition of Net Zero operational emissions by 2050)

Please explain target coverage and identify any exclusions

Please refer to Northern Star's CY2021 (page 46-48) Sustainability Report and FY2022 (page 32-34) Sustainability Report for details of our proposed strategic pathway and associated emissions reductions prior to 2030, to achieve a proposed reduction in greenhouse gas emissions from our baseline (FY20) of 931kt CO₂-e down to approximately 590kt CO₂-e.

Plan for achieving target, and progress made to the end of the reporting year

Northern Star's FY2023 Sustainability Report will include an update on progress made against our planned pathway to reduce Scope 1 and Scope 2 Emissions by 35% by 2030. Carosue Dam Operations and Jundee Mine are the first operations being targeted for renewables projects, as follows:

1. Jundee Mine.

(i) Jundee renewable facility - June 2023 signed long term power supply agreement with Zenith Pacific for solar and wind. Installed capacity will total 40.9 MW comprising 16.9 MW Solar Farm, 12 MW BESS Facilities and 24 MW Wind Farm. To be installed in two stages; Stage 1 Solar Farm and BESS installations - planned commissioning Q3 FY24; Stage 2 Wind Farm installation - planned commissioning Q1 FY25.

(ii) Ramone mine solar facility - 1MW solar installation commissioning in Q1 FY24.

2. Carosue Dam Operations (CDO)

(i) CDO solar facility - emissions reductions progress linked to disclosures in FY22 SR on the installed capacity of 6.3 MW (and the associated max potential emissions reduction capacity of 6.7 kt CO₂-e), plus optimising the fuel ratio (gas:diesel) in the existing thermal station. Next extension of solar facility in planning phase.

(ii) Porphyry - installation of 4.4MWp relocatable solar facility to commence in Q1 FY24.

List the actions which contributed most to achieving this target

<Not Applicable>

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Abs1

Target year for achieving net zero

2050

Is this a science-based target?

No, and we do not anticipate setting one in the next two years

Please explain target coverage and identify any exclusions

Since announcing our Net Zero Ambition on 22 July 2021, in February 2022 we outlined our decarbonisation pathway for achieving our 2030 Emissions Reduction Targets of 35% reduction in Scope 1 and Scope 2 Emissions on the way to achieving Net Zero operational Emissions by 2050.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Unsure

Planned milestones and/or near-term investments for neutralization at target year

<Not Applicable>

Planned actions to mitigate emissions beyond your value chain (optional)

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	9	
To be implemented*	1	35000
Implementation commenced*	3	20000
Implemented*	4	7035
Not to be implemented		

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Low-carbon energy generation	Solar PV
------------------------------	----------

Estimated annual CO2e savings (metric tonnes CO2e)

7035.5

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

Payback period

Please select

Estimated lifetime of the initiative

Please select

Comment

CDO installed capacity of 6.3 MW. Estimated CO2-e savings have been calculated based on the kWh generated by the solar farm and then using the tCO2-e intensity of the diesel power generators at that site in that year to determine the emissions based on the same amount of kWh.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Financial optimization calculations	We have developed inhouse capabilities to model our sites' power and energy demand, wind efficiency and timing, and solar efficiency and timing. Through this work, we are developing a financial model for each of our five operations where we anticipate commissioning renewables, as shown in our 2030 Emissions Reduction pathway, in Figure 10 on page 34 of our FY22 Sustainability Report.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

No

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

July 1 2019

Base year end

June 30 2020

Base year emissions (metric tons CO2e)

467619

Comment

Northern Star is committed to reducing its Scope 1 and 2 Emissions by 35% (from a 1 July 2020 baseline of 931kt CO2-e) by 2030, on the way to Net Zero operational emissions by 2050.

Scope 2 (location-based)

Base year start

July 1 2019

Base year end

June 30 2020

Base year emissions (metric tons CO2e)

463743

Comment

Northern Star is committed to reducing its Scope 1 and 2 Emissions by 35% (from a 1 July 2020 baseline of 931kt CO2-e) by 2030, on the way to Net Zero operational emissions by 2050.

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 1: Purchased goods and services

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 5: Waste generated in operations

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Australia - National Greenhouse and Energy Reporting Act

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

792133

Start date

July 1 2022

End date

June 30 2023

Comment

Northern Star is currently preparing its FY2023 emissions data for public release with its FY2023 Sustainability Report and FY2023 Annual Report on 24 August 2023. The emissions and other sustainability performance data will be independently assured in accordance with the GRI 2021 Standards. This has not yet happened as Northern Star is still in the process of collating and analysing its FY2023 emissions data. For this reason, there may be minor variances between this CDP data and the final published data on 24 August 2023.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

710273

Start date

July 1 2021

End date

June 30 2022

Comment

These values reflect the equity share of a given facility. 100% Pogo emissions included from FY2019 until present (from acquisition in October 2018) 100% Saracen emissions included from FY2019 until present (legacy data incorporated from pre-merger) 100% KCGM emissions included from FY2020 until present (from acquisition in January 2020) Kundana and East Kundana assets were divested in August 2021 Paulsens and Western Tanami assets were divested in June 2022.

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

642225

Start date

July 1 2020

End date

June 30 2021

Comment

These values reflect the equity share of a given facility. 100% Pogo emissions included from FY2019 until present (from acquisition in October 2018) 100% Saracen emissions included from FY2019 until present (legacy data incorporated from pre-merger) 100% KCGM emissions included from FY2020 until present (from acquisition in January 2020) Kundana and East Kundana assets were divested in August 2021 Paulsens and Western Tanami assets were divested in June 2022.

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)

476161

Start date

July 1 2019

End date

June 30 2020

Comment

These values reflect the equity share of a given facility. 100% Pogo emissions included from FY2019 until present (from acquisition in October 2018) 100% Saracen emissions included from FY2019 until present (legacy data incorporated from pre-merger) 100% KCGM emissions included from FY2020 until present (from acquisition in January 2020) Kundana and East Kundana assets were divested in August 2021 Paulsens and Western Tanami assets were divested in June 2022.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

Please select

Comment

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

413462

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

July 1 2022

End date

June 30 2023

Comment

Northern Star is currently preparing its FY2023 emissions data for public release with its FY2023 Sustainability Report and FY2023 Annual Report on 24 August 2023.

The emissions and other sustainability performance data will be independently assured in accordance with the GRI 2021 Standards.

This has not yet happened as Northern Star is still in the process of collating and analysing its FY2023 emissions data.

For this reason, there may be minor variances between this CDP data and the final published data on 24 August 2023.

Past year 1

Scope 2, location-based

479780

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

July 1 2021

End date

June 30 2022

Comment

These values reflect the equity share of a given facility. 100% Pogo emissions included from FY2019 until present (from acquisition in October 2018) 100% Saracen emissions included from FY2019 until present (legacy data incorporated from pre-merger) 100% KCGM emissions included from FY2020 until present (from acquisition in January 2020) Kundana and East Kundana assets were divested in August 2021 Paulsens and Western Tanami assets were divested in June 2022.

Past year 2

Scope 2, location-based

491681

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

July 1 2020

End date

June 30 2021

Comment

These values reflect the equity share of a given facility. 100% Pogo emissions included from FY2019 until present (from acquisition in October 2018) 100% Saracen emissions included from FY2019 until present (legacy data incorporated from pre-merger) 100% KCGM emissions included from FY2020 until present (from acquisition in January 2020) Kundana and East Kundana assets were divested in August 2021 Paulsens and Western Tanami assets were divested in June 2022.

Past year 3

Scope 2, location-based

375581

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

July 1 2019

End date

June 30 2020

Comment

These values reflect the equity share of a given facility. 100% Pogo emissions included from FY2019 until present (from acquisition in October 2018) 100% Saracen emissions included from FY2019 until present (legacy data incorporated from pre-merger) 100% KCGM emissions included from FY2020 until present (from acquisition in January 2020) Kundana and East Kundana assets were divested in August 2021 Paulsens and Western Tanami assets were divested in June 2022.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

358413

Emissions calculation methodology

Supplier-specific method
Hybrid method
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

61.7

Please explain

Data percentages per method as follows:

- Supplier specific method 61.7% [survey – supplier specific quantity and supplier specific emission factor]
- Hybrid method 4.8% [survey – supplier specific quantity and peer emission factor (peer from survey or publicly reported) & survey – supplier specific quantity and generic emission factor (UK Factors)]
- Spend based method 33.5% [spend data – total spend and generic emission factor (US EPA Factors)]

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

22659

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Data percentages per method as follows:

- Spend based method 100% [spend data – total spend and generic emission factor (US EPA Factors)]

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

207643

Emissions calculation methodology

Supplier-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Data percentages per method as follows:

- Supplier specific method 100% [NGER data – actual fuel consumed by Northern Star (NGA Factors)]

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

37180

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Data percentages per method as follows:

- Spend based method 100% [total spend and generic emission factor (US EPA Factors)]

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

6561

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Data percentages per method as follows:

- Waste-type specific method 100% [total waste generated by Northern Star (NGA Factors & UK Factors)]

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1460

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

All business travel data was supplied by our travel partner in the form of a combined travel report with calculated emissions, as well as data to enable distance-method calculations. Data incorporated emissions variations for cabin class for air travel.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

10677

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Data for workforce commuting was calculated using a distance methodology, and use of detailed manifest/flight information for all FIFO and chartered flights, and detailed manifest/driving distances for all DIDO/bus charters. All flight and bus trip information was calculated from our internal "InFlight" software system which records all workforce commute travel (business travel excepted).

Upstream leased assets**Evaluation status**

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Northern Star does not have upstream leased assets

Downstream transportation and distribution**Evaluation status**

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain**Processing of sold products****Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

183

Emissions calculation methodology

Site-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

All gold sold is processed through the Perth Mint which provided detailed information on emissions factors and total emissions attributable to Northern Star.

Use of sold products**Evaluation status**

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain**End of life treatment of sold products****Evaluation status**

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Downstream leased assets

Evaluation status

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Franchises

Evaluation status

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Investments

Evaluation status

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Other (upstream)

Evaluation status

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Other (downstream)

Evaluation status

Not evaluated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date

July 1 2021

End date

June 30 2022

Scope 3: Purchased goods and services (metric tons CO2e)

232952

Scope 3: Capital goods (metric tons CO2e)

27896

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

55254

Scope 3: Upstream transportation and distribution (metric tons CO2e)

35521

Scope 3: Waste generated in operations (metric tons CO2e)

Scope 3: Business travel (metric tons CO2e)

840

Scope 3: Employee commuting (metric tons CO2e)

25529

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

210

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

Past year 2

Start date

January 1 2021

End date

December 31 2021

Scope 3: Purchased goods and services (metric tons CO2e)

126822

Scope 3: Capital goods (metric tons CO2e)

61

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

53573

Scope 3: Upstream transportation and distribution (metric tons CO2e)

7377

Scope 3: Waste generated in operations (metric tons CO2e)

Scope 3: Business travel (metric tons CO2e)

Scope 3: Employee commuting (metric tons CO2e)

15872

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

408

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.8

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

1205594

Metric denominator

Other, please specify (Troy ounce of gold sold)

Metric denominator: Unit total

1562594

Scope 2 figure used

Location-based

% change from previous year

Direction of change

<Not Applicable>

Reason(s) for change

Please select

Please explain

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	789003	Other, please specify (Global Warming Potential as per Australian National Greenhouse and Energy Reporting Regulations and Australian National Greenhouse and Energy Reporting (Measurement) Determination.)
CH4	1248	Other, please specify (Global Warming Potential as per Australian National Greenhouse and Energy Reporting Regulations and Australian National Greenhouse and Energy Reporting (Measurement) Determination.)
N2O	1826	Other, please specify (Global Warming Potential as per Australian National Greenhouse and Energy Reporting Regulations and Australian National Greenhouse and Energy Reporting (Measurement) Determination.)
SF6	55	Other, please specify (Global Warming Potential as per Australian National Greenhouse and Energy Reporting Regulations and Australian National Greenhouse and Energy Reporting (Measurement) Determination.)
HFCs	0	Other, please specify (Global Warming Potential as per Australian National Greenhouse and Energy Reporting Regulations and Australian National Greenhouse and Energy Reporting (Measurement) Determination.)
PFCs	0	Other, please specify (Global Warming Potential as per Australian National Greenhouse and Energy Reporting Regulations and Australian National Greenhouse and Energy Reporting (Measurement) Determination.)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO2e)
Australia Western Australia	752890
United States of America Alaska	39243

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By facility

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Carosue Dam	118544	-30.153608	122.351022
Porphyry	21930	-29.780281	122.312688
Deep South	10760	-29.544365	122.545397
Black Flag, Mungari & Mount Burgess Station Operations	35		
Kanowna Belle	14921	-30.604106	121.578512
South Kalgoorlie (Jubilee)	17914	-31.038928	121.61585
Fimiston	228777	-30.776995	121.506895
Gidji	24	-30.588948	121.456867
Jundee	142256	-26.358019	120.621251
Bronzewing	27307	-27.36792	121.009647
Thunderbox	169497	-28.154752	121.002718
Pogo	39243	64.453575	-144.903995
Central Tanami	924	-19.89005	128.83656

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	792133	<Not Applicable>	
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Australia <i>Western Australia</i>	274654	
United States of America <i>Alaska</i>	138808	

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By facility

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Kanowna Belle	57603	
South Kalgoorlie (Jubilee)	5045	
Fimiston	193012	
Gidji	18892	
Pogo	138808	
Northern Star Corporate Office	103	

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Not relevant as we do not have any subsidiaries

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	413462		
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable >		
Other emissions reduction activities		<Not Applicable >		
Divestment		<Not Applicable >		
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output		<Not Applicable >		
Change in methodology		<Not Applicable >		
Change in boundary		<Not Applicable >		
Change in physical operating conditions	41959	Increased	3.6	The change in emissions represents the net increase in Scope 1 and Scope 2 emissions from FY22 to FY23. This increase due to an increase in Scope 1 Emissions. These were mostly attributed to an increase in diesel consumption associated with increased production, often from deeper sources, and a smaller portion to on-site electricity production. The percentage value represents the percentage increase in Scope 1 and Scope 2 emissions from FY22 to FY23.
Unidentified		<Not Applicable >		
Other		<Not Applicable >		

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 10% but less than or equal to 15%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	Unable to confirm heating value		3533591.39	3533591.39
Consumption of purchased or acquired electricity	<Not Applicable>		688653.89	688653.89
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	11564.17	<Not Applicable>	11564.17
Total energy consumption	<Not Applicable>	11564.17	4222245.28	4233809.45

C-MM8.2a

(C-MM8.2a) Report your organization's energy consumption totals (excluding feedstocks) for metals and mining production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	Unable to confirm heating value	3533591
Consumption of purchased or acquired electricity	<Not Applicable>	688653.89
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	11564.17
Total energy consumption	<Not Applicable>	4233809.45

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Other biomass

Heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Coal

Heating value

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Oil

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

43080

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Includes fuel oils, lubricating oils and non-lubricant fluid oils that are combusted as part of operations.

Gas

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

1353114.72

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Includes liquefied natural gas (LNG), liquefied petroleum gas (LPG) and pipeline natural gas (PNG) combusted directly on our sites. These gases are used for a combination of self-generation of electricity, mine heating and other purposes.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

2137397.22

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Includes diesel combusted in mobile and stationery plant (including power generation), diesel used in explosives, greases used in lubricants, jet kerosene, sulphur and unleaded gasoline combustion.

Total fuel

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

3533591.94

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment

Includes fuel oils, lubricating oils and non-lubricant fluid oils that are combusted as part of operations. Includes liquefied natural gas (LNG), liquefied petroleum gas (LPG) and pipeline natural gas (PNG) combusted directly on our sites. These gases are used for a combination of self-generation of electricity, mine heating and other purposes. Includes diesel combusted in mobile and stationery plant (including power generation), diesel used in explosives, greases used in lubricants, jet kerosene, sulphur and unleaded gasoline combustion.

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	547425.6	547425.6		
Heat				
Steam				
Cooling				

C-MM8.2d

(C-MM8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed for metals and mining production activities.

	Total gross generation (MWh) inside metals and mining sector boundary	Generation that is consumed (MWh) inside metals and mining sector boundary
Electricity	547425.6	547425.6
Heat		
Steam		
Cooling		

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Energy usage

Metric value

9.75

Metric numerator

Net energy consumed
15,241,714 GJ

Metric denominator (intensity metric only)

Troy ounces of gold sold
1,562,594

% change from previous year

10

Direction of change

Increased

Please explain

Energy intensity (net energy consumed per ounce of gold sold) has increased from 8.84 GJ/Troy oz to 9.75 GJ/Troy oz due to the increase in production. Net energy consumed on our operations comprises all energy consumed by our facilities, including site produced electricity, grid purchased electricity and fuels burnt, less any power generated onsite.

Description

Other, please specify (Total water consumed)

Metric value

0.01

Metric numerator

Total Water Consumption
24,808 ML

Metric denominator (intensity metric only)

Troy ounces of gold sold
1,562,594

% change from previous year

30

Direction of change

Increased

Please explain

Water consumption intensity (total water consumed per ounce of gold sold) has increased from 0.012 ML/Troy Oz to 0.016 ML/Troy Oz due to the increase in production

C-MM9.3a

(C-MM9.3a) Provide details on the commodities relevant to the mining production activities of your organization.

C-MM9.3b

(C-MM9.3b) Provide details on the commodities relevant to the metals production activities of your organization.

Output product

Gold

Capacity (metric tons)

Production (metric tons)

48.38

Annual production in copper-equivalent units (thousand tons)

Scope 1 emissions (metric tons CO2e)

792133

Scope 2 emissions (metric tons CO2e)

413462

Scope 2 emissions approach

Location-based

Pricing methodology for-copper equivalent figure

Comment

Production figure stated above is Gold Recovered (For FY23 = 1,555,589 Troy Ounces = 48.38 Tonnes)

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

Investment in low-carbon R&D	Comment
Row 1 Yes	In August 2021, Northern Star joined a consortium of six other mining companies to collectively accelerate BluVein's dynamic charging technology for heavy duty battery electric mining vehicles in underground and surface mining applications. The BluVein project allows grid power to be supplied directly to a vehicle's traction drive motors and simultaneously charging of onboard batteries. This feature eliminates all battery swapping and static vehicle charging requirements, enables smaller and lower cost batteries and increased haulage speeds.

C-MM9.6a

(C-MM9.6a) Provide details of your organization's investments in low-carbon R&D for metals and mining production activities over the last three years.

Technology area

Other, please specify (Dynamic charging technology for heavy duty battery electric mining vehicles in underground and surface mining applications.)

Stage of development in the reporting year

Applied research and development

Average % of total R&D investment over the last 3 years

20

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

The Bluvein project has made significant progress with proof-of-concept experimentation completed and system integration and testing underway. Northern Star has since invested in the next phase of the project.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance

Limited assurance

Attach the statement

FY22 - GRI SDG SASB Index.pdf

NSR_Assurance_Statement_Bureau Veritas_280822.pdf

Page/ section reference

See attached GRI Index page 6 of 10 for details of limited assurance of Scope 1 emissions against the GRI 305: Emissions 2016 disclosure 305-1 Direct (Scope 1) GHG Emissions. The same process is currently being applied for FY23 data.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance

Limited assurance

Attach the statement

FY22 - GRI SDG SASB Index.pdf

NSR_Assurance_Statement_Bureau Veritas_280822.pdf

Page/ section reference

See attached GRI Index page 6 of 10 for details of limited assurance of scope 2 emissions against the GRI 305: Emissions 2016 disclosure 305-2 Energy Indirect (Scope 2) GHG Emissions. The same process is currently being applied for FY23 data.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C5. Emissions performance	Other, please specify (Gold Sold)	Perth Mint Outturn Statements	The Outturn Statements show the final Perth Mint assay results from their refining process to take our dore bar to London Bullion Market Association standard gold bars, which is the amount of gold we can then sell into the gold market.

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Other, please specify (Assessing our Scope 3 Emissions Sources)

Details of engagement

% of suppliers by number

% total procurement spend (direct and indirect)

% of supplier-related Scope 3 emissions as reported in C6.5

100

Rationale for the coverage of your engagement

While Northern Star does not have a Scope 3 Emissions Reduction target, we are focused on being able to fully assess and understand our Scope 3 Emissions Sources. In FY23 we surveyed our supply chain categories of: lime and cement; corporate infrastructure; general freight; processing materials; underground mining services; tyres; light vehicles; and heavy mining equipment to ascertain: • Updated data related to material suppliers' contribution to our emissions, including existing data providers, new suppliers and suppliers who previously were non-responsive. • Data related to commercial travel across Australia, USA and throughout the industry with the assistance of our travel partners.

Impact of engagement, including measures of success

Approximately 27% of invited suppliers provided the required information to assist Northern Star build our understanding of the scale and nature of our Scope 3 Emissions.

Comment

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, and we do not plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

Northern Star's Climate Change Policy and ESS Committee Charter are attached

[nsr-cor-034-pol-climate-change-policy.pdf](#)

[nsr-cor-029-cha-ess-committee-charter-\(5\).pdf](#)

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

Please refer to our C1. Governance responses for supporting information on Northern Star's Board and Senior Management approval processes in place. At Board level, Northern Star's ESS Committee assists the Board in implementing the Company's environmental, social and safety strategies and ensuring responsible and sustainable business practices. This includes the ESS Committee assisting the Board in its oversight, monitoring and review of the Company's practices in the key area of physical and transitional climate change. Northern Star's Chief Legal Officer & Company Secretary's portfolio includes climate-related reporting, disclosure and engagement responsibilities which are carried out by Northern Star's ESG Engagement function.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify (The Chamber of Minerals and Energy of Western Australia)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

The Chamber of Minerals and Energy (CME) of Western Australia is the peak resources sector representative body in Western Australia. As a member-funded, not-for-profit organisation, the CME represents the views and the needs of members.

Northern Star's position (as documented in our Climate Change Policy) is consistent with the CME's position of "supporting the Paris Agreement and its goal of limiting global warming to well below 2, preferably to 1.5 degrees Celsius, by reducing emissions to net zero as soon as possible and no later than 2050".

Northern Star is represented on the CME's Climate and Energy Reference Group, tasked with leading policy development on climate, greenhouse gas emissions and energy-related issues impacting the resources sector.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

628789.7

Describe the aim of your organization's funding

The funding figure paid is for the 2023 calendar year (1 January - 31 December 2023) and is a membership subscription fee paid annually. The figure paid includes GST.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In voluntary sustainability report

Status

Underway – previous year attached

Attach the document

CY2021-Northern-Star-Sustainability-Report.pdf

Sustainability Report 2022.pdf

Page/Section reference

FY22 Sustainability Report: Sustainability Snapshot (pg 6-7) Our Sustainability Journey (pg 18-19) Sustainability Performance Metrics (pg 26-27) Climate Change (pg 30-43).

Additional information is also available in our CY2021 Sustainability Report that partially overlaps with this reporting year: Sustainability Snapshot (pg 4-5) Sustainability Performance Metrics (pg 18-19) Northern Star's Journey (pg 26-27) Climate Change (pg 44-59)

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Comment

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	We are not a signatory/member of any collaborative framework, initiative and/or commitment related to environmental issues	<Not Applicable>

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	At Board level, Northern Star's ESS Committee assists the Board in implementing the Company's environmental, social and safety strategies and ensuring responsible and sustainable business practices. This includes the ESS Committee assisting the Board in its oversight, monitoring and review of the Company's practices in the key area of environmental management, which includes biodiversity-related issues. Northern Star's Chief Legal Officer & Company Secretary's portfolio includes environmental management responsibilities which are carried out by Northern Star's Environmental function. Northern Star has an Environmental Policy that addresses biodiversity and is publicly available on our website. In addition, we have an internal Biodiversity Global Standard, which sets the standards on biodiversity management for all our sites.	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments only	Adoption of the mitigation hierarchy approach Commitment to respect legally designated protected areas Commitment to secure Free, Prior and Informed Consent (FPIC) of Indigenous Peoples	<Not Applicable>

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?

No

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water management Species management Education & awareness

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No	Please select

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Governance Impacts on biodiversity Other, please specify (Details of taxa, communities and species locations relative to our operations and projects)	Refer to the FY22 Sustainability Report's Biodiversity section on pages 47 - 52, and to Northern Star's FY22 - Biodiversity Values table at: https://www.nsrld.com/getattachment/sustainability/fy22-biodiversity-values.pdf?lang=en-AU Sustainability Report 2022.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Legal Officer and Company Secretary	Other C-Suite Officer

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms