nsrltd.com/sustainability

**Sustainability
Report** 2019

NORTHERN STAR
RESOURCES LIMITED

Sustainability Vision

Delivering responsible environmental and social business practices that lead to both the creation of strong economic returns for our Shareholders, and shared value for our Stakeholders.

NORTHERN STAR
RESOURCES LIMITED

Sustainability Snapshot
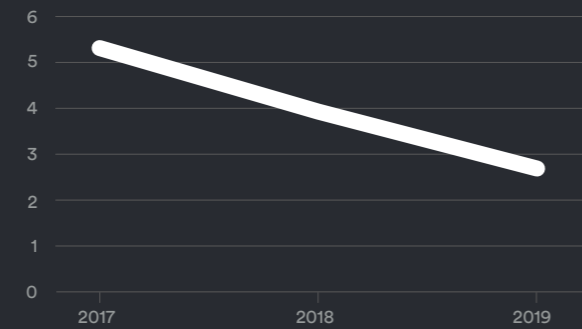
Safety Performance

Sector-leading results

We outperformed the Industry by more than 3 times

› CY2019
LTIFR*
0.6
› Sector 1.9 FY2018**

› CY2019
TRIFR*
2.8
› Sector 9.1 FY2018**

Number of recordable injuries per million hours worked

	2017	2018	2019
1.8			
1.5			
1.2			
0.9			
0.6			
0.3			
0			

	2017	2018	2019
6			
5			
4			
3			
2			
1			
0			

Key: —— Northern Star

Our Business

Our workforce
2,667 employees & contractors

Gold sold up 24%
from CY2018 to 815,978oz

Reserves increased
to 6.2Moz
+ 22.5Moz Resources^

Tier 1 jurisdictions
USA & Australia

Environmental Responsibility

↓ **27%**
Net freshwater production intensity
(per ounce)

Improved recycling program

↓ **10%**
Energy consumption
(per ounce)

0
Fines
Incidents

- Number of materially adverse environmental incidents
- Number of regulator fines for environmental incident/non-compliance
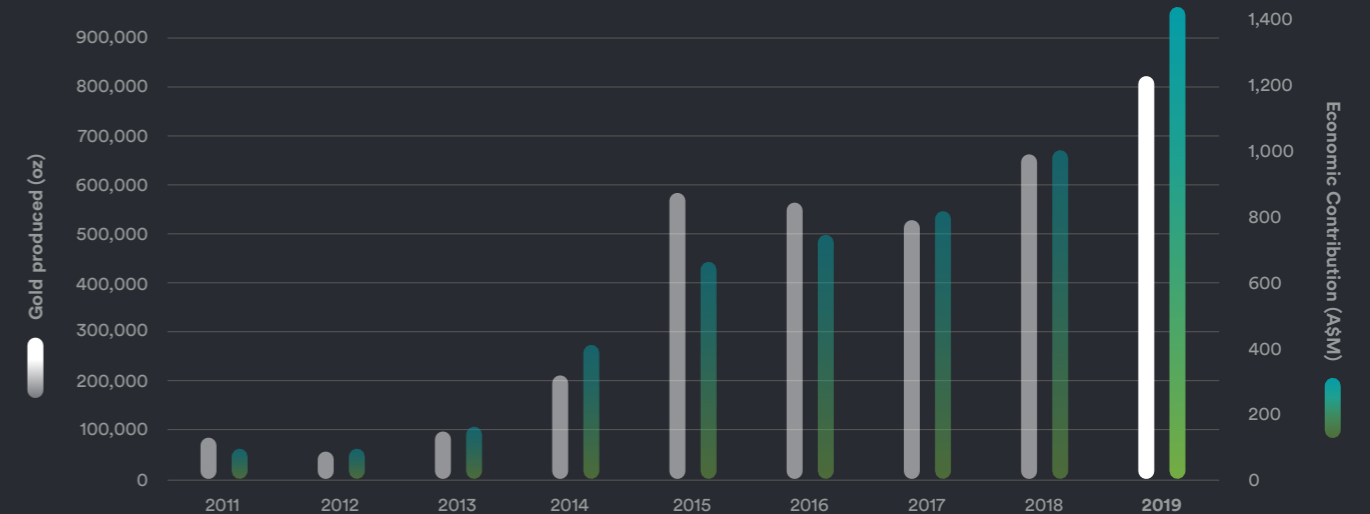- Value of regulator fines for environmental incident/non-compliance

Community Investment

Significant socio-economic returns

↑ **A$1.44B**

(Government royalties, tax, wages, goods and services, interest, dividends and donations)

Gold produced (oz)

Economic Contribution (A$M)

	2011	2012	2013	2014	2015	2016	2017	2018	2019
900,000									
800,000									
700,000									
600,000									
500,000									
400,000									
300,000									
200,000									
100,000									
0									

A Message from the ESS Chair and Executive Chair

Inspired by global shifts in investor and Stakeholder expectations, it is the Board's firm view that sustainability must be hardwired into our operating strategy to maximise Shareholder returns and Stakeholder shared value.

Dear Stakeholders

Northern Star Resources Limited (Northern Star or Company) considers sustainable development to be central to our Company Vision and Mission, and fundamentally linked to our ability to succeed as a business. We were one of the first Australian mid-cap gold companies to release a stand-alone Sustainability Report back in 2017, and since then have continued to expand and evolve our strategy and disclosures to ensure we operate an efficient and respectful business.

Inspired by global shifts in investor and Stakeholder expectations, it is the Board's firm view that sustainability must be hard-wired into our overall strategy. This sentiment was re-affirmed during the engagements at our inaugural ESG investor roadshow in March 2019 and will further evolve as we continue our sustainability journey.

Our sustainability evolution and strong performance scorecard give the Board confidence in our ability to grow and further strengthen the business.

Safety

The safety of our people will always be our number one priority and we continually aim for best of class safety performance. This is demonstrated by our multi-year sector-leading safety results, with further improvements made to our lost time injury frequency rate and total recordable injury frequency rate figures. The Board is proud of these results because they show that our people are embracing our STARR Core Values and exercising safety leadership across all roles and responsibilities. It also gives local communities confidence that we operate our business to the highest safety standards.

Environmental Responsibility

We strive to ensure our business activities interact with the natural environment in a responsible manner. The Board's commitment to environmental responsibility is demonstrated by the fact that since acquiring our current portfolio of assets, we have had no material environmental incidents across the business and zero regulator fines for environmental incidents or non-compliances. We are also committed to understanding how a changing climate might impact our Operations and decisions, as seen in our Climate Change section of this Report.

Climate Change

In November 2019, we launched our strategic alignment with the Recommendations of the Taskforce on Climate-Related Financial Disclosure

(TCFD). Globally recognised as the benchmark for climate risk and opportunity assessment, we are proud to report on the completion of our first stage of alignment, which involved cross-discipline workshops with Company leaders to map out our climate change related risk profile.

People

Our people are, without doubt, our greatest asset and remain at the centre of Northern Star's success. The rollout of a *Developing Our People* capability framework allows us to more effectively identify the unique competencies required for the delivery of our strategic plan. We can also proudly report that over 200 of our workforce are now trained in Mental Health First Aid and better positioned to respond to one of the biggest health issues impacting people globally.

Governance and Ethics

As Directors, we understand that good governance, sound ethics and comprehensive disclosures are directly linked to our ability to earn investor trust and confidence in our ability to maximise shareholder returns through long-term value creation.

Social Responsibility

Northern Star has expanded its alignment with the United Nations' Sustainable Development Goals, which tackle many issues of concern to our Shareholders and Stakeholders alike. These include poverty, inequality, climate change, environmental degradation, peace and justice. Many of the 17 Goals and their targets can be seen in our actions as a Company.

On behalf of our fellow Directors, thank you for taking the time to read our Sustainability Report for CY2019.
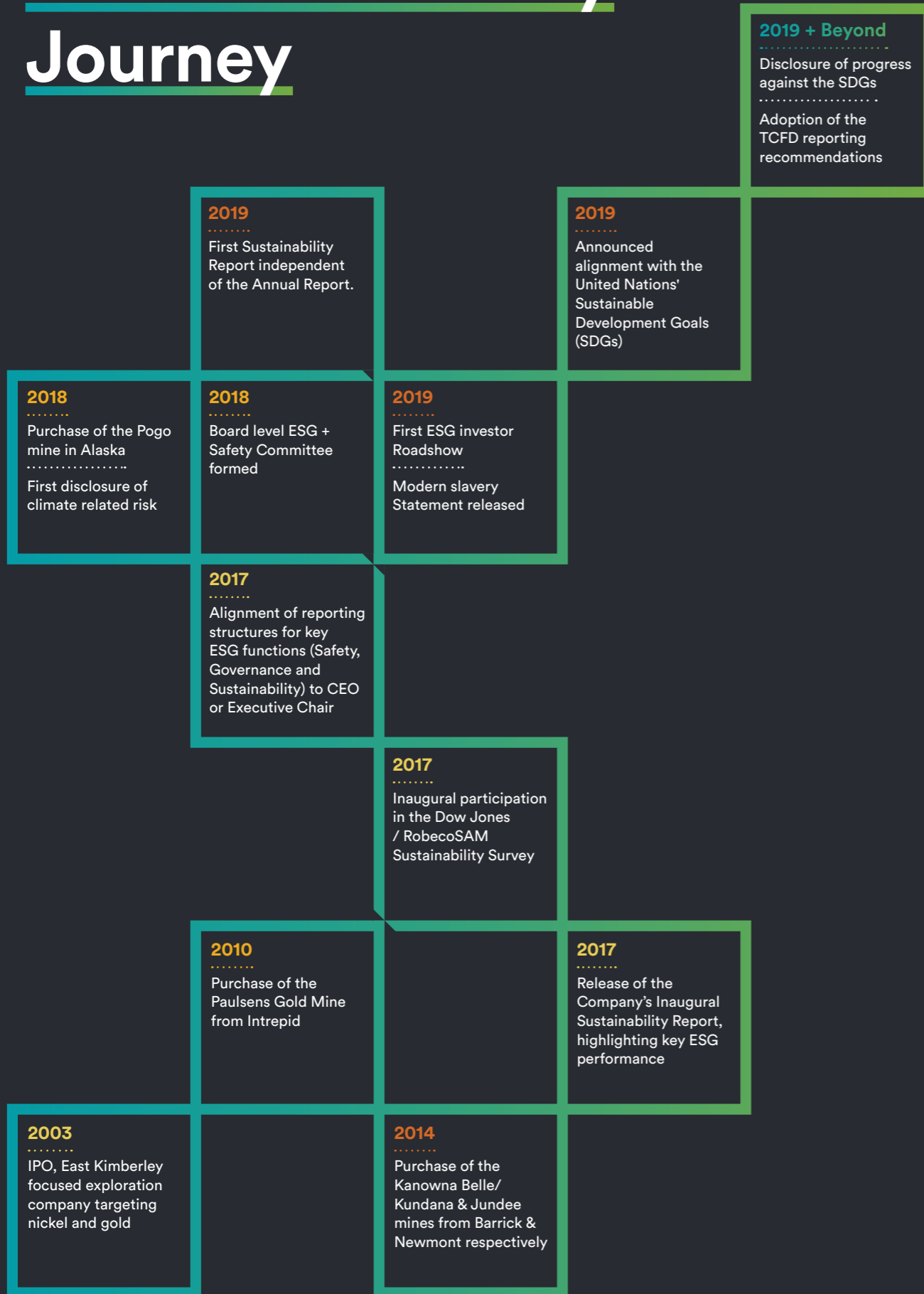
Mary Hackett
ESS Chair

Bill Beament
Executive Chair

Our Sustainability Journey

2019 + Beyond
Disclosure of progress against the SDGs

Adoption of the TCFD reporting recommendations

2019
First Sustainability Report independent of the Annual Report.

2019
Announced alignment with the United Nations' Sustainable Development Goals (SDGs)

2018
Purchase of the Pogo mine in Alaska

First disclosure of climate related risk

2018
Board level ESG + Safety Committee formed

2019
First ESG investor Roadshow

Modern slavery Statement released

2017
Alignment of reporting structures for key ESG functions (Safety, Governance and Sustainability) to CEO or Executive Chair

2017
Inaugural participation in the Dow Jones / RobecoSAM Sustainability Survey

2010
Purchase of the Paulsens Gold Mine from Intrepid

2017
Release of the Company's Inaugural Sustainability Report, highlighting key ESG performance

2003
IPO, East Kimberley focused exploration company targeting nickel and gold

2014
Purchase of the Kanowna Belle/ Kundana & Jundee mines from Barrick & Newmont respectively

Materiality

As our business continues to grow, so does our understanding of those key areas of material interest to our Stakeholders. Our ever-evolving Sustainability Report content reflects this, with the inclusion of a standalone Climate Change section in this year's Report.

To establish materiality for inclusion in this Report, a wide range of Stakeholders were engaged comprising Shareholders and custodians; local communities, employees and contractors; suppliers and business partners; and governments and regulators.

Stakeholders were engaged via face-to-face conversations, desktop analyses and participation in ESG benchmarking surveys.

Climate Change
- Task Force on Climate-related Financial Disclosures (TCFD) Recommendations
- Governance structure
- Climate change related risk

Safety Performance
- Sector leading results
- OHS systems
- Innovation and training
- Leadership & culture
- Risk management

Social Performance
- External Stakeholder engagement
- Community investment
- Economic return to society
- Local procurement
- Indigenous peoples
- Heritage responsibility
- Modern slavery

People Performance
- Leadership
- Mental health
- Workplace diversity
- Local employment
- Developing our people
- Graduates and apprentices
- Diversity
- Culture

Environmental Performance
- Tailings management
- Water management
- Air quality and emissions
- Waste
- Energy
- Reclamation and closure

Governance, Ethics & Transparency
- Corporate governance
- Ethical business practices
- Transparency in disclosure
- Risk mitigation & management

- Communities
- Shareholders
- Employees
- Governments

- Employees
- Communities
- Contractors
- Suppliers
- Governments

- Indigenous Peoples
- Shareholders
- Governments
- Communities
- Employees
- Suppliers

- Indigenous Peoples
- Employees
- Communities
- Contractors

- Communities
- Shareholders
- Employees
- Governments
- Indigenous Peoples

- Shareholders
- Governments
- Communities
- Employees

Voluntary Alignment

SUSTAINABLE DEVELOPMENT GOALS

Northern Star's Sustainability Vision is aligned with the United Nations' Sustainable Development Goals (SDGs) and their focus on the role of business and economic growth in supporting sustainable development.

Throughout this Report we identify key examples of alignment with the SDGs. A complete assessment of our alignment with each of the 17 goals has been included as Appendix 1.
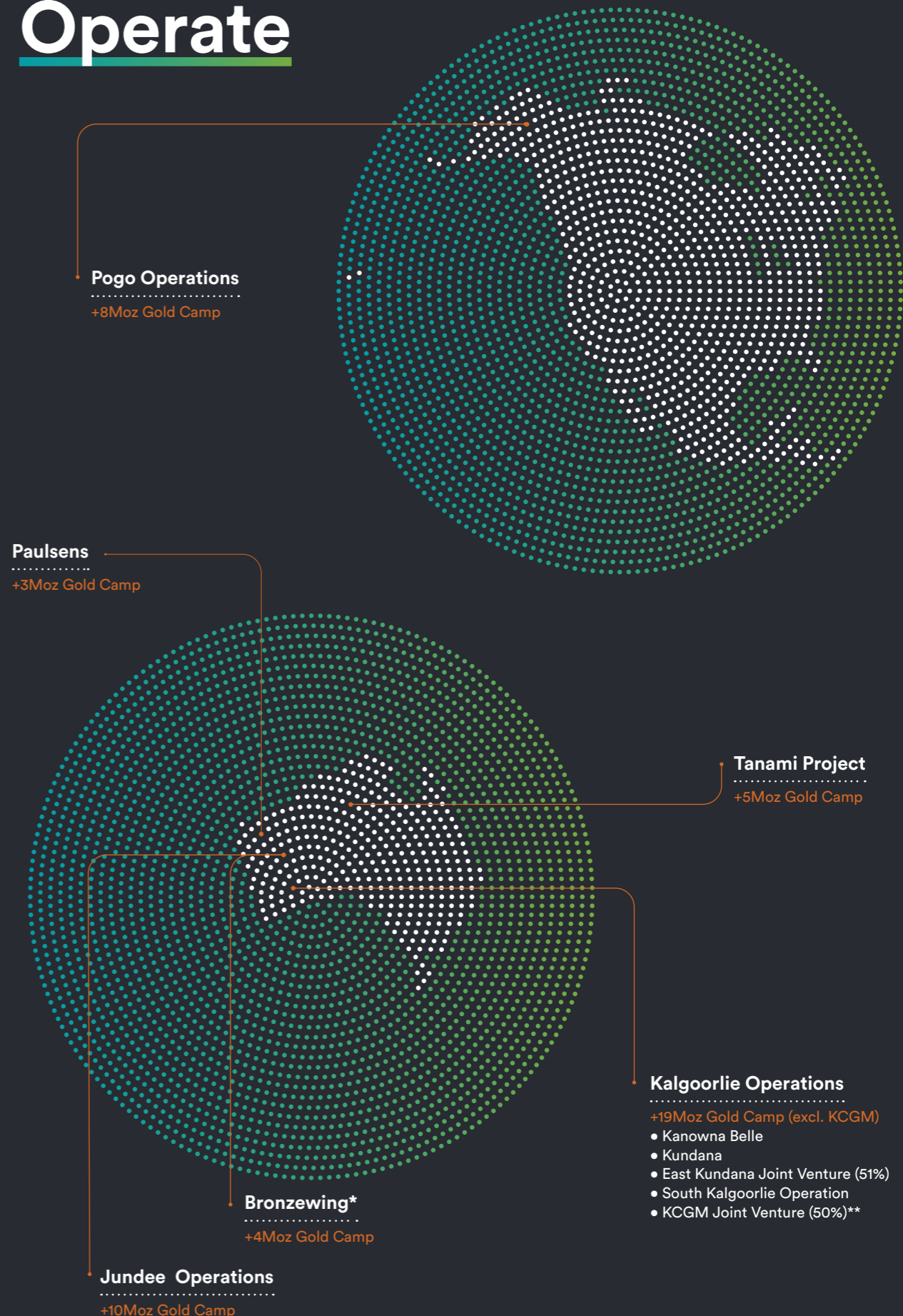

TASK FORCE ON CLIMATE–RELATED FINANCIAL DISCLOSURES

In CY2019, Northern Star assessed its Sustainability Vision and business practices against the Recommendations from the Task Force on Climate-Related Financial Disclosures (TCFD).

Details on the actions Northern Star has undertaken in line with the TCFD Recommendations can be found in the Climate Change section on page 38.

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organisation's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.	Disclose how the organisation identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Where We Operate

Pogo Operations
+8Moz Gold Camp

Paulsens
+3Moz Gold Camp

Tanami Project
+5Moz Gold Camp

Kalgoorlie Operations
+19Moz Gold Camp (excl. KCGM)
● Kanowna Belle
● Kundana
● East Kundana Joint Venture (51%)
● South Kalgoorlie Operation
● KCGM Joint Venture (50%)**

Bronzewing*
+4Moz Gold Camp

Jundee Operations
+10Moz Gold Camp

* Acquired in December 2019 ** Acquired January 2020 and not included in this Report unless otherwise stated.

STARR
Core Values

" It's what we stand for. At Northern Star our values are integral to the working lives of all our workers and Operations."

Stuart Tonkin

Chief Executive Officer

Safety
It matters and starts with you

Teamwork
Together we can

Accountability
The responsibility lies with you

Respect
To get it you must give it

Results
We deliver on our promises

In this Report

In This Report

ASX Disclosures in this Report

This Report contains estimates of Northern Star's ore reserves and mineral resources. The information in this Report that relates to the ore reserves and mineral resources of Northern Star has been extracted from the following: the ASX release by Northern Star titled "Northern Star Set for Further Production Growth as Reserves and Resources Jump +30%" dated 1 August 2019 and, in the case of the Yandal Project only (which ore reserves and mineral resources estimates are incorporated from the acquisition of Echo Resources Limited by Northern Star), please refer to the ASX release by Echo Resources Limited titled "Noosa Mining and Exploration Conference" dated 19 July 2019. A copy of these announcements is available at www.asx.com.au or https://www.nsrltd.com/investor-media/news/. Northern Star confirms that it is not aware of any new information or data that materially affects the information included in that announcement and, in relation to the estimates of Northern Star's ore reserves and mineral resources, that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed. Northern Star confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from those announcements.

Safety
Performance

Staying safe and keeping others safe

" The safety of our people will always be at the heart of our business as we continue to build on the solid safety culture existing within Northern Star. "

Melissa Collins

Principal – Health & Safety

Our safety statistics and culture at Northern Star are something we are very proud of.

Northern Star continues to outperform industry peers by as much as four times for some benchmarked metrics. For CY2019, we outperformed industry by more than 3 times on LTIFR and TRIFR measures (see snapsht below).

In 2017 we revisited and re-set our approach to safety. We set some very clear, non-negotiable objectives that all the Senior Leadership Group agreed on. Commitment was made to the following:

- **Safety** – Conducting thorough and detailed investigations.
- **Teamwork** – Every member of the team having the opportunity for feedback.
- **Accountability** – Quality completion of the lead indicator tools via Leader review.
- **Respect** - Communication across all levels to achieve the reduction.
- **Results** – Significantly decreasing our frequency rates via genuine initiatives. »

Safety Snapshot

Key: ▬ Northern Star

› CY2019
LTIFR* **0.6**
› **Sector 1.9 FY2018****

› CY2019
TRIFR* **2.8**
› **Sector 9.1 FY2018****

Number of recordable injuries per million hours worked

	2017	2018	2019
1.8			
1.5			
1.2			
0.9			
0.6			
0.3			
0			

	2017	2018	2019
6			
5			
4			
3			
2			
1			
0			
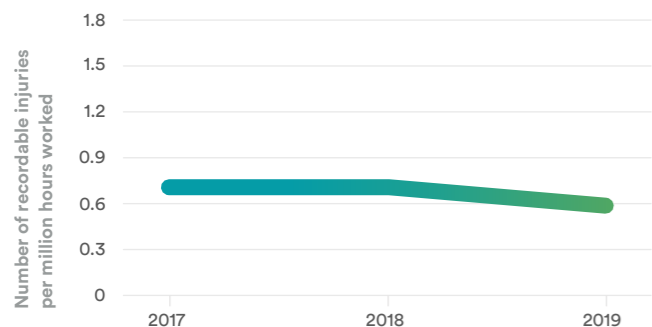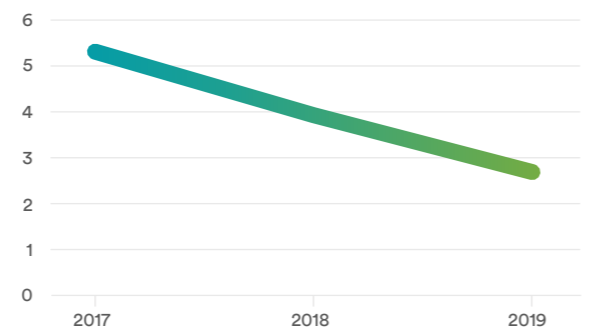
* Calculated on a 12 month rolling average ** Underground Metalliferous. FY2019 Sector results not yet released.

Safety Performance

" Working at our remote Tanami Project, the effectiveness of our team is underpinned by a strong safety culture where we all look out for each other "

Dale Annison

Senior Exploration Geologist

Safety Leadership and Culture

Safety leadership is fundamental to our business. Safety is part of our leaders' everyday work and plays a pivotal role in decision making in the Company. Our leaders are empowered and have a clear vision of what safety looks like and feels like at our sites.

We encourage safety shares where employees relay their safety experiences and lessons learnt at safety and pre-shift meetings. Through Active Field Leadership, our supervisors and leaders actively engage with employees in the field, discussing the process and any possible improvements to safety. Leading by example continues to drive a focus on the right path.

Our safety culture begins before any of the team start work, our Strive for Five meetings conducted for every shift provide the avenue for clear discussion around all the elements of safety and the interaction across the team during the shift ahead.

Emerging safety leaders are developed through our Safety Representative programs, encouraging them to participate and chair safety meetings, taking responsibility for their work areas and becoming involved in the safety management system with reviews and improvements.

Our annual CEO Health and Safety Representative meetings reinforce our safety culture at all our sites. These allow two-way communication with the Executive and direct access to the CEO to discuss any perceived safety issues or any improvements to the way we do our safety business.

Providing our leaders with the right framework and tools to support their decision making is integral for keeping our number one asset – our people – safe.

> " The purpose of these meetings is to provide a forum for open discussion and encourage interaction. The backgrounds and diversity of the group highlights the value of Health and Safety Reps to the workforce and the Company. "
> [On Health and Safety Representative meetings]
>
> Stuart Tonkin
> **Chief Executive Officer**

Risk Management

Northern Star have over the past few years grown significantly, both internally and by strategic acquisition. We initiated a project to upgrade and enhance the uniformity across all our sites in risk management assessment.

The project consisted of reviewing and evaluating existing processes; enhancing current risk assessment tools; conducting individual onsite key risk reviews with the main Stakeholders; providing a standard format;

and training on evaluating key risks within the Company's specific operational areas. The outcome of the project resulted in a consistent, quality review of these risks.

The business is focusing on the most relevant risks within their respective operations, ultimately resulting in the business utilising existing resources more effectively and thus achieving greater sustainability in its financial and safety performance.

Innovation and Training

To complement our current Plant Task training Northern Star have introduced an interactive web-based training program incorporating fundamentals of unit operations, training on plant-specific processes, equipment and operating procedures. Also included is advanced training utilising high-end animations and simulations with a focus on safety, equipment, troubleshooting and preventative maintenance.

The new training program has been rolled out to all our operations, ensuring consistency across the Company and has contributed to an improvement in our overall performance within the Processing and Maintenance Operations. The right information is being captured and shared across the Group and is used to improve our business decision making enabling continuous and step change progress to achieve our set goals.

> " Through our rapid replacement of Pogo's aging fleet, with cleaner burning, higher tier emission standard engines, our employees are now able to work in an environment where fewer diesel particulates are emitted. "
>
> Jeff Brown
> **General Manager – Technical Services**

OHS Systems

Northern Star has enhanced its Occupational Health and Safety (OHS) Management Systems throughout CY2019 to; standardise incident investigation as the business continues to grow into new regions; streamline Company onboarding and inductions; improve capture and reporting of key safety metrics; and manage documents and records.

Incident investigation training has been conducted at our operations to standardise the investigation method used across our business. The training followed industry best practice, using Professor James Reason's Organisational Accident Model and "just culture". Investigation teams are now capable and competent experts in the process, are able to identify failed or absent controls, exposing any immediate underlying individual, workplace, or organisational factors which may have contributed to an incident.

Introduction of a web-based site entry system not only eliminates the need for paper-based

records, but also ensures Northern Star's safety and cultural expectations are more clearly communicated to all new employees and contractors.

The appropriate collection, management and reporting of OHS data is essential for understanding the safety culture within our business. Development of a new platform to record our inspections, hazards, task observations, active field leadership and incidents will enable the business to provide accurate and valuable statistics not only to top-level management, but also to our site personnel.

The newly implemented document control system provides easy access to controlled documents for all personnel within the business. This delivers a clear way to store and locate all controlled documents, helps streamline the way we operate and provides our people with the guidance to complete their jobs.

Our 3 Year Plan

Develop (Achieved)

The right guidance material so that all sites have improved tools to identify and control hazards and manage risk efficiently

Consolidate (Achieved)

Ensure the processes are implemented correctly and are adding value across the Company

Improve (FY2020)

Identifying areas for improvement and implementing those changes

NSMS
UT147

**Tayla Titchener, 2nd Year
Heavy Diesel Apprentice**

Kanowna Belle, Australia

Case Study:
Red Earth Health Solutions

To improve services to our employees who have sustained injuries, Northern Star engages the services of Red Earth Health Solutions to act as our Injury Management Provider.

RED EARTH Health Solutions

The Red Earth team are industry experienced heath care professionals having spent large amounts of their careers working on or around mine sites, including several of our own sites.

Research has shown that if an injured employee is able to return to the workplace sooner, through modified working conditions or similar, the total time required for the employee to successfully recover and return to pre-injury status condition is reduced.

Our partnership with Red Earth has increased the outcomes of treatment and care for our injured workers, so they can remain at work or return to work at the earliest appropriate time.

Comprehensive processes are put in place to ensure that from the day of injury to the resumption of pre-injury work duties (where medically possible), the employee's best interests are maintained.

SUSTAINABLE DEVELOPMENT G☼ALS

Safety Performance

Our alignment with the UN Sustainable Development Goals through our Safety Performance.

3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol

Drug education initiatives in the community

In CY2019 we were a major sponsor of the Sideffect Australia – Goldfields Roadshow, a drug awareness program presented to secondary school students in Kalgoorlie and Kambalda, Western Australia. The program aims to reduce substance use by enabling young adults to make informed decisions about use of substances based on knowledge and awareness.

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

Indigenous health care in remote communities

Since 2015 Northern Star has provided significant funding to the Nangganawili Aboriginal Health Service (NAHS) in Wiluna, Western Australia. NAHS provides affordable and culturally appropriate health and medical services to the remote township of Wiluna and surrounding areas, in the vicinity of our Jundee Operations.

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

Mutual aid for emergency response

Northern Star maintains several Mutual Aid Agreements with government agencies, nearby mining companies, local government authorities and pastoralists to assist with a coordinated approach to emergency and crisis management.

WE SUPPORT ENVIRONMENTAL RESPONSIBILITY

Environmental Performance

Committed Environmental Stewardship

"We are committed to conducting our activities in an environmentally responsible manner."

Dr Guy Singleton
Social Responsibility & External Relations Manager

We continued our track record of high performance against our environmental commitments, recording no materially adverse environmental incidents or regulator fines for incidents or non-compliance.

Our publicly disclosed Environmental Policy and associated Environmental Management System ensure we strive to deliver the best possible environmental and social outcomes at our Operations.

Our Environmental Management System contains several Standards outlining the Company-wide expectations for key environmental risk areas and criteria for monitoring performance against these expectations. Continual monitoring, reviewing and reporting against the Standards, and other environmental commitments, ensures we meet and, where possible, exceed our legal obligations. All of Northern Star's suppliers are bound to the requirements of the Environmental Policy and Environmental Management System. »

Environmental Snapshot

Number of materially adverse environmental incidents

Number of regulator fines for environmental incident/non-compliance

Value (A$) of regulator fines for environmental incident/non-compliance
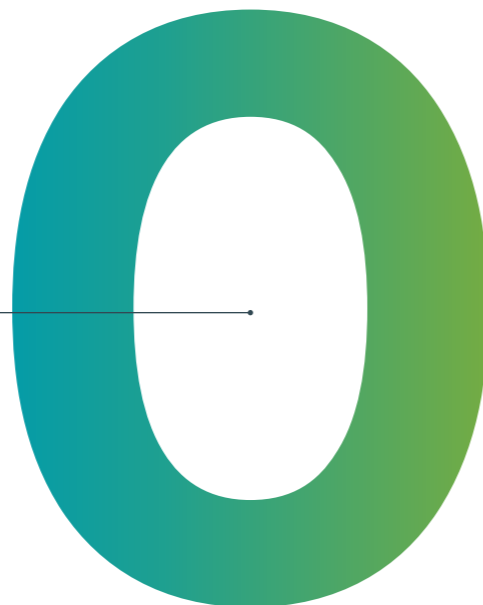
0

"Continual monitoring, reviewing and reporting against the Standards, and other environmental commitments, ensures we meet and, where possible, exceed our legal obligations."

Kirstie Warren
Senior Environmental & Social Responsibility Adviser

Tailings Management

There are four paddock style tailings storage facilities, three in-pit tailings facility and one drystack tailings facility currently operating globally across our Operations. We have an additional 37 tailings facilities that are not currently in use across our operational centres and exploration projects, 17 of which have been rehabilitated.

In CY2019, we produced 7,023,975t of tailings material. 956,245t (13.5%) of total tailings did not contain cyanide.

Our total tailings produced includes:

- 560,074t (8.0%) tailings from ore processed via third party toll treatment and deposited at third party tailings facilities; and

- 592,211t (8.4%) tailings from third party ore processed at our Kalgoorlie Operations under toll treatment arrangements.

The Tailings Management Standard ensures our tailings storage facilities are managed through all phases of their life cycle in compliance with the Company's Environmental Policy.

Our facilities are audited by third party engineers to ensure their geotechnical stability. We constantly assess the methods by which we are auditing our facilities to improve our tailings risk management. Northern Star participated in the Church of England's tailings disclosure request in CY2019 and have appended the full disclosure document to this Report (Appendix 3).

Table 2.1 Tailings Production*

	2019	2018
Tailings Produced (tonnes)	7,023,975	5,444,567

Figure 2.1 Tailings Production by project centre (tonnes)

Jundee	2,304,770
Kalgoorlie Operations	3,639,794
Pogo*	1,079,410
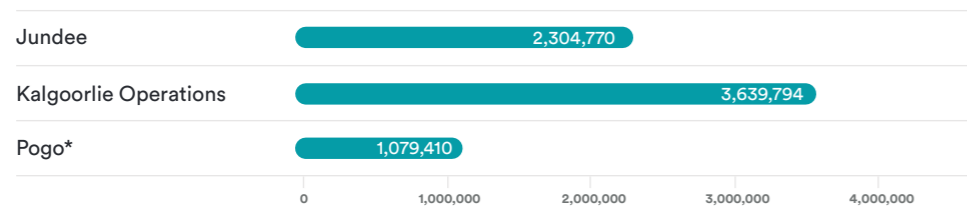
Waste Rock Production

The commencement of mining at the Ramone Open Pit at Jundee resulted in additional waste rock removal throughout CY2019, and accounts for most of the increase on CY2018 figures.

Where mine planning permits, our preference is to backfill waste rock and minimise surface waste rock landform creation. This not only reduces the visual impact of mine landforms to the surrounding environment but also reduces the safety risks associated with open surface and underground voids. In CY2019 992,714 tonnes (14.3%) of waste rock mined was backfilled into open pits or completed stopes.

Table 2.2 Waste Rock

	2019	2018
Waste Rock Produced (tonnes)	6,923,223	2,796,480

Figure 2.2 Waste Rock Production by project centre (tonnes)

Jundee	5,195,443	910,971
Kalgoorlie Operations	1,231,071	81,743
Pogo	496,709	
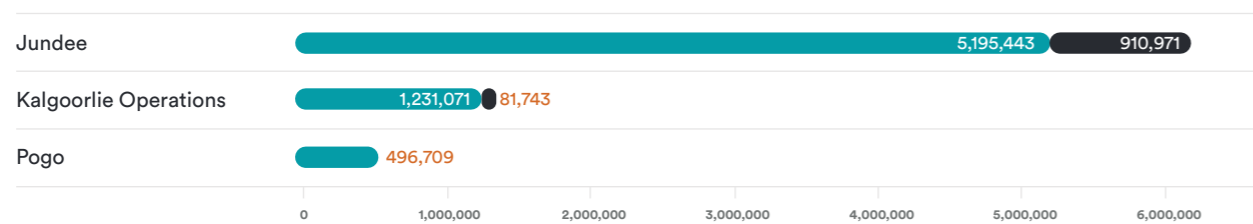
Key: ● Surface disposal ● Backfilled

Water Management

The withdrawal, discharge and movement of water can have material impacts on local Stakeholders, the surrounding natural environment and the business if not managed appropriately. To be effective, sustainable water management practices need to consider climate change related risks and management strategies to mitigate those risks. Our climate change related risks, including those associated with water, are disclosed in the Climate Change section of this Report, on page 38.

Fresh water is defined as water that meets drinking water standards with minimal processing. Net water consumption is total water use, minus direct discharges back into the environment. Freshwater consumption has increased from 2018 figures due to Pogo and South Kalgoorlie data being included for a full 12 months. Overall, our production intensity* of freshwater use has decreased through more efficient water practices.

Table 2.3
Fresh Water Consumption

	2019	2018
Net Fresh Water Consumption (ML)	504.17	560.07
Net Water Use Efficiency (ML used/ounce Au)	0.000620	0.000853

Figure 2.3
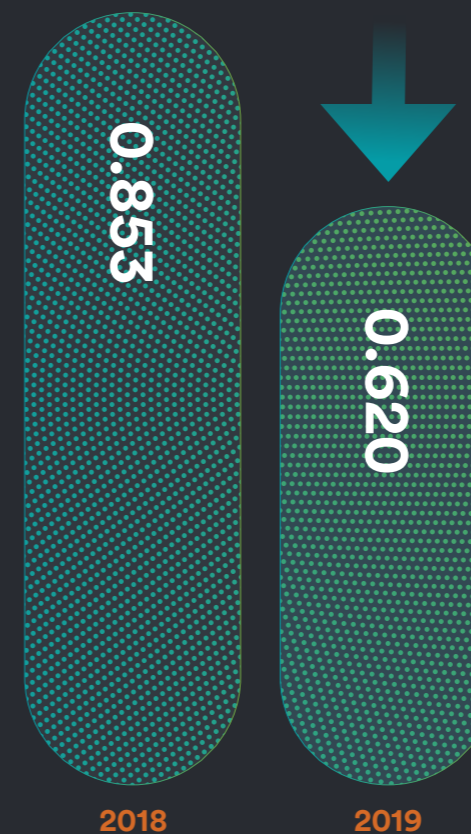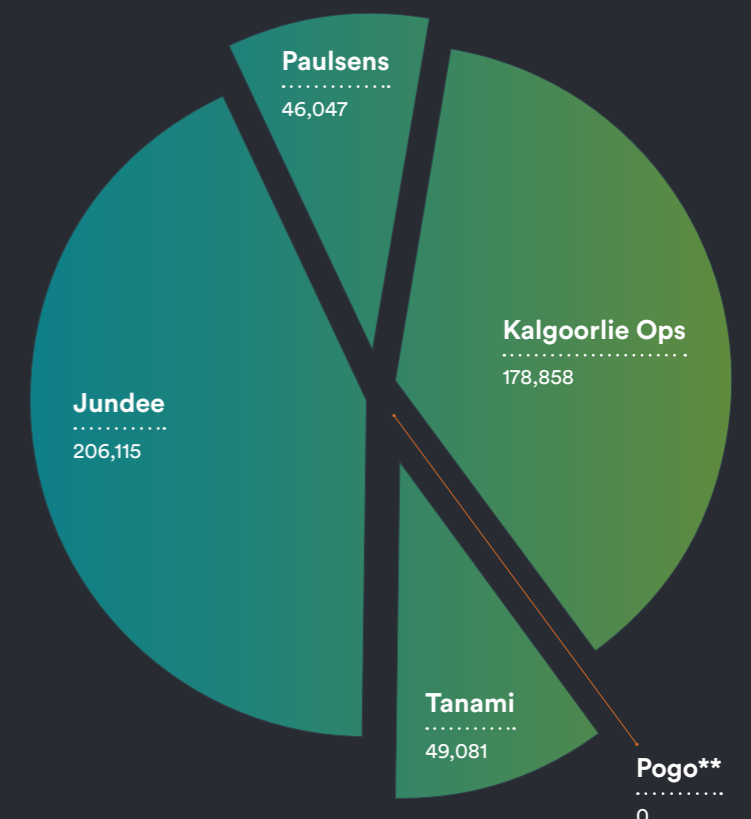Net Fresh Water Use Efficiency
(kL used/ounce Au)

0.853
2018

0.620
2019

Figure 2.4
Net Fresh Water Consumption
(ML) (per location)

Paulsens 46,047

Kalgoorlie Ops 178,858

Jundee 206,115

Tanami 49,081

Pogo** 0

* Production intensity is the quantity of water used per ounce of gold produced ** Pogo Mine operates with a net neutral water balance, returning all extracted fresh water back into the environment.

*Dry tailings production

Air Quality & Emissions

GHG Emission Snapshot

Scope 1 GHG emissions

229,005 tonnes

We voluntarily track and disclose our Alaskan emissions to Australian Government standards. For the purpose of this Report, Scope 1 and

Scope 2 GHG emissions

241,901 tonnes

Scope 2 greenhouse gas (GHG) emissions were calculated based on the National Greenhouse and Energy Reporting Scheme (NGERS) requirements.

Figure 2.5 GHG Emissions

Scope 1 GHG Emissions (t CO2-e)	229,005 (2019) / 209,455 (2018)
Scope 2 GHG Emissions (t CO2-e)	241,901 (2019) / 160,988 (2018)

Key: 2019 / 2018

Primary sources of our Scope 1 carbon emissions (generated by Northern Star) are the diesel and gas used for electricity generation and to power our mining equipment fleet. Our Scope 2 carbon emissions (generated by others, for Northern Star) are from purchased electricity.

Both Scope 1 and Scope 2 emissions have increased in CY2019 due to the South Kalgoorlie Operations and Pogo Operations data being included for a full 12 months, for the first time.

As the Company continues to grow through acquisitions and increased throughputs, our GHG emissions consequently increase.

At our individual Operations, we will seek to reduce our greenhouse gas intensity through site-based initiatives like the remote exploration fly-camp solar power generation systems, which reduce reliance on diesel-powered generators.

Figure 2.6 Scope 1 GHG emissions by project centre (tonnes)*

| Project Centre	Tonnes
Jundee	113,260
Kalgoorlie Operations	82,578
Paulsens	1,641
Pogo	29,520
Tanami	2,000

Our Jundee Operations is our single largest point source of Scope 1 GHG emissions, attributed to the power plant that supports the processing mill, mine and other infrastructure.

The electricity is generated from a reciprocating engine gas power plant, with diesel support for times of abnormally high-power demand.

*Excludes Corporate

Figure 2.7 Main scope 2 GHG emission sources by project centre (tonnes)*

| Project Centre	Tonnes
Jundee	0
Kalgoorlie Operations	134,639
Paulsens	0
Pogo	107,154
Tanami	0
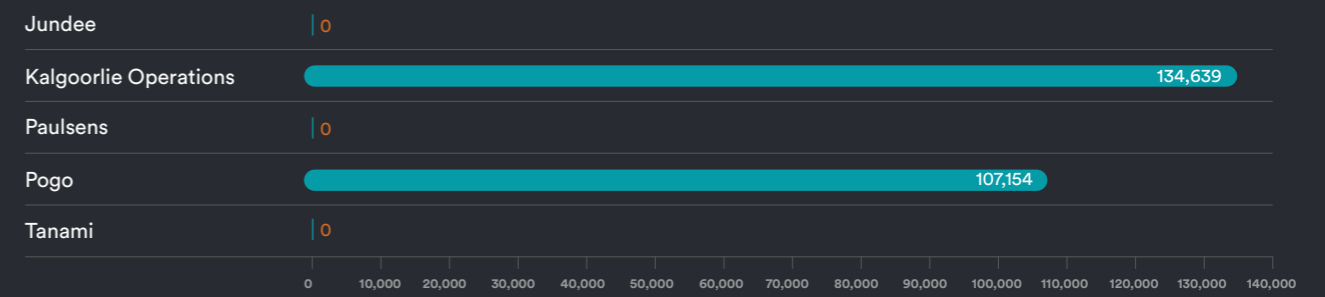
Our largest contributor of Scope 2 GHG emissions is our Kalgoorlie Operations as the processing mills and mines are powered from State generated electricity.

Figure 2.8
Emissions disclosures and reports

Northern Star discloses and reports on its emissions to both the Australian and United States' Governments via several mechanisms;
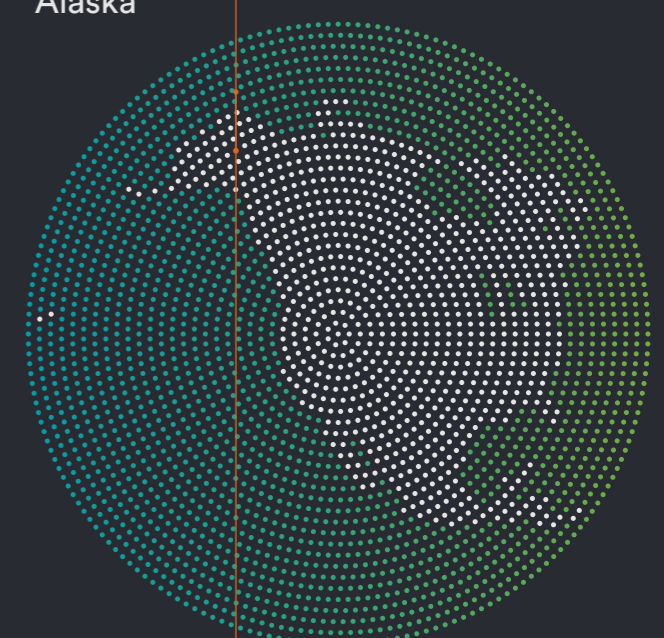

Australia
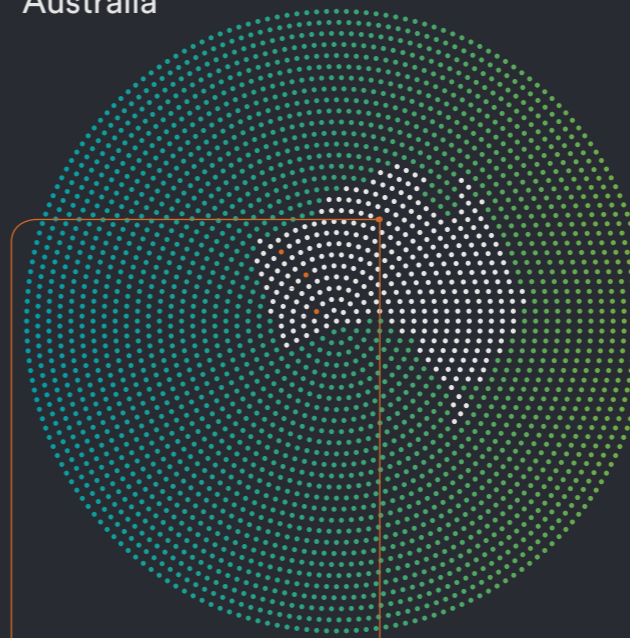
Disclosure/Report
Scope 1 and Scope 2 GHG emissions via the National Greenhouse and Energy Reporting Scheme (NGERS)

Regulator
Australian Government's Clean Energy Regulator

Location
www.cleanenergyregulator.gov.au/NGER

Disclosure/Report
Emissions per substance via the National Pollutant Inventory (NPI).

Regulator
Australian Government

Location
www.npi.gov.au

Alaska

Disclosure/Report
Emissions from air, water and solids via the Toxics Release Inventory (TRI).

Regulator
United States' Government

Location
www.epa.gov/trinationalanalysis.

Disclosure/Report
Air emissions in accordance with permit requirements.

Regulator
Alaska Department of Environment and Conservation and the Environmental Protection Agency.

Location
N/A

*Excludes Corporate

Energy Use and Production

Table 2.4 Energy Use & Production

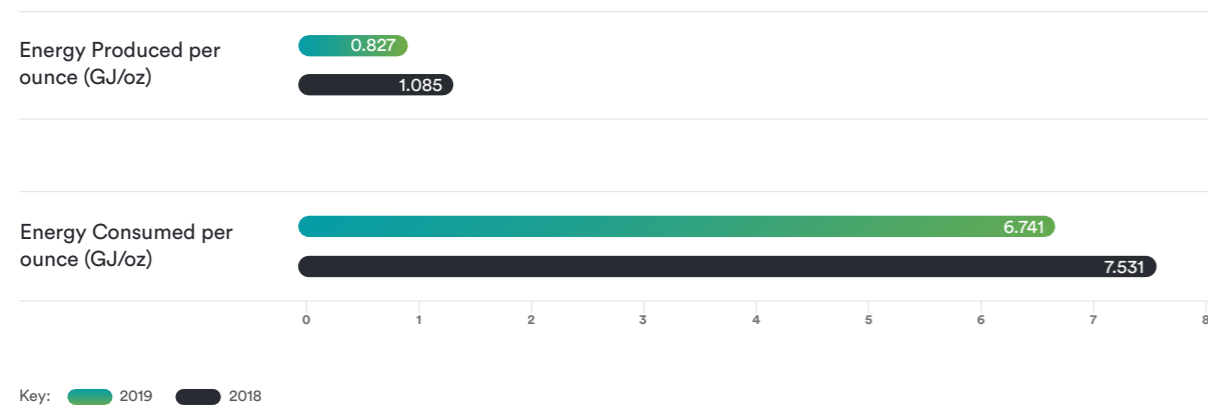|	2019	2018
Energy Produced (GJ)	672,393	712,222
Total Energy Consumed (GJ)	5,480,327	4,942,494

The gas-fired power plant at Jundee is our primary source of energy production, producing 499,837GJ of electrical energy in CY2019.

At our Kalgoorlie Operations and Pogo Operations the primary source of energy is purchased from the relevant state power grid.

Total energy produced and consumed has increased in CY2019 as this Report captures a full year of data for both South Kalgoorlie Operations and Pogo Operations for the first time.

Energy produced and consumed per ounce of gold produced has decreased across the business.

Figure 2.9 Energy Use & Production per ounce of gold produced

Energy Produced per ounce (GJ/oz)	0.827 (2019) / 1.085 (2018)
Energy Consumed per ounce (GJ/oz)	6.741 (2019) / 7.531 (2018)

Key: 2019 2018

Waste Management

CY2019 saw continued conformance across the business to our Waste Management Global Standard. The Standard provides minimum requirements for managing waste-related risks and delivering improved environmental and health outcomes, through effective resource recovery and waste disposal practices.

Our preference towards avoidance and resource recovery, over waste disposal, encourages broad recycling programs and continuous improvement in waste management at our Operations.

During CY2019 Jundee improved its recycling program to include vehicle tyres. Other key materials recycled at our Operations include:

Recyclable Material	CY2019 Quantities
Scrap metals	1,479.43 tonnes
Batteries (vehicular)	21.64 tonnes
Printer ink and toner cartridges	30.06 kilograms
Waste oil	740.16 kilolitres
Comingled recycling (paper, cardboard, plastics, aluminium cans)	87.35 tonnes

Reclamation and Closure Preparedness

Our Reclamation and Closure Preparedness Global Standard sets out the minimum requirements for mine closure planning, including detail on risk management and remediation. We prioritise progressive rehabilitation works, responsibly estimating the cost of mine closure and ensuring adequate capital is available when required.

All of our Operations globally have regulator approved Closure and Reclamation Plans with related financial assurance.

In CY2019 contaminated site audits were completed at our Australian Operations and exploration projects to assist in closure and reclamation planning.

In CY2019 we rehabilitated over 130 hectares of land, the majority being exploration rehabilitation at our Kalgoorlie Operations and Jundee Mine. We commit to rehabilitating all exploration disturbance at our Operations within six months of completion of exploration works.

This is extended to legacy exploration disturbance that Northern Star has inherited through acquisitions, with 51.65 hectares of legacy disturbance rehabilitated in the Goldfields region during CY2019.

Northern Star is dedicated to continually improving its progressive rehabilitation program, with plans to complete projects or trials at Pogo and Jundee in the coming year.

> We prioritise progressive rehabilitation works, responsibly estimating the cost of mine closure and ensuring adequate capital is available when required.

Case Study:
Indigenous Desert Alliance

Northern Star has been a financial supporter of the national Indigenous Desert Alliance (IDA) in Australia for the last four years.

The annual Indigenous Desert Alliance Conference in 2019

The IDA plays a vital role in securing the future health of the Australian desert and its people by strengthening the existing connections between desert people, empowering desert people to look after their country and by connecting the desert story with the story of Australia.

The annual IDA Conference is the largest annual gathering of desert Aboriginal Rangers in Australia, bringing together hundreds of Rangers from across the country to share and learn from each other to improve desert ecosystem management.

Our support for the IDA aligns with our history of supporting Aboriginal Rangers at our Australian Operations, recognising that local Indigenous groups have a vital role to play in managing country and that their empowerment can create shared value for our business.

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SUSTAINABLE DEVELOPMENT GOALS

Environmental Performance

Our alignment with the UN Sustainable Development Goals through our Environmental Performance.

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Recycling to support children's health

Proceeds generated from the scrap metal recycling program at our Jundee Operations are invested back into the community via the Perth Children's Hospital Fund. In CY2019 proceeds were used to sponsor the Science of the Swab research project, which is developing new laboratory tests to allow easy identification of Strep A bacteria, a significant cause of disease among Aboriginal and Torres Strait Islander children between 5 and 14 years of age, resulting in heart damage.

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Rigorous water treatment mitigates impact to Goodpaster River

The Off-River Treatment Works at our Pogo Operations is the final step in the on-site water treatment process that allows the site to discharge water into the Goodpaster River. Water from the Goodpaster River is used to mix and dilute treated mine water, which is only discharged back into the Goodpaster River when its water quality matches that of the receiving river waters. This ensures there is no material impact to the Goodpaster River ecosystem, ensuring the safe ongoing use for other river users.

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

Supporting sustainable environmental management

In partnership with the Kalgoorlie-Boulder Urban Landcare Group (KBULG) we have helped regenerate local parks and recreational areas, ensuring a positive contribution to the wider Kalgoorlie-Boulder community for years to come. Continued support of KBULG and their projects directly align with Northern Star's Sustainability Vision to create shared value for our Stakeholders.

Climate
Change

OUR CHANGING ENVIRONMENT COULD IMPACT US ALL

We support action to address the potential consequences of climate change on our business

" We recognise that there are climate change-related risks associated with our business activity."

Ryan Gurner

Chief Financial Officer

The assessment and management of these climate change-related risks will be vital to the sustainability and growth of our business.

In CY2019 we undertook a review of how climate change-related risks impact on our assets and identified 28 physical and transitional risks relating to climate change with the potential to impact Northern Star over the next decade to 2030. Of these, two are considered material enough to be classified as high inherent risks on

our corporate risk register (see Table 3.1 on page 44).

TCFD Disclosures

Established by the G20 Financial Stability Board, the industry-led TCFD provides a framework for disclosure of climate-related financial risks. We have elected to disclose against this framework, as recommended by APRA, ASIC and ASX. »

Figure 3.1 Northern Star's phased TCFD Recommendations alignment

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organisation's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.	Disclose how the organisation identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
2019 Achievements	**2019 Achievements**	**2019 Achievements**	**2019 Achievements**
• Comprehensive disclosure of climate risk management roles and responsibilities (Figure 3.2)	• Comprehensive risk identification and disclosure (Appendix 2) • Physical Risk Assessment 2030 (See Climate Related risk section on page 43)	• Comprehensive disclosure of climate risk management processes	
Short Term Plans	**Short Term Plans**	**Short Term Plans**	**Short Term Plans**
	• Scenario analysis develop and disclose scenario descriptions and high-level impacts	• Comprehensive disclosure of processes for managing and mitigating climate risk	• Establishment of metrics and targets
Medium Term Aspirations	**Medium Term Aspirations**	**Medium Term Aspirations**	**Medium Term Aspirations**
	• Scenario analysis disclose quantified impacts		• Report performance against targets

Climate Change

" Only 2 of the 28 climate related risks identified during the TCFD risk assessment were deemed material enough to be classified as high inherent risks"

Luke Creagh

Chief Operating Officer

» The TCFD Recommendations aim to improve the disclosure of climate-related information including risks, opportunities, strategies and performance in relation to the business, for use by external Stakeholders when assessing Northern Star's performance.

Governance Structure

Through our Energy and Climate Change Standard and our Risk Management Policy, we consider and manage climate change related risks at both a local and company-wide level. This ensures that appropriate mitigating practices are implemented to ensure the sustainability of the business.

Northern Star's risks are identified and managed at three levels: functional, site and corporate (as illustrated in Figure 3.2). While ultimate responsibility for Northern Star's risk management framework rests with the full Board, its sub-committees play a significant role. Two sub-committees of the Board, the Audit & Risk Committee (ARC) and the Environmental, Social & Safety (ESS) Committee, have oversight of our risks and controls.

Where risks are found to be high priority and company-wide, their management falls under

the responsibility of the Chief Financial Officer. Functional and site teams manage risks which have specific impacts on an activity or site.

The risks related to climate change are identified by the Environmental & Social Responsibility team with assistance from subject matter experts as needed. The two current high inherent climate change-related risks are listed in the corporate risk register (see Table 3.1).

Our operational teams have significant experience with managing the physical impacts of climate change, such as increases in temperature and heavy rainfall events.

Our full corporate governance structure and a deep dive into our TCFD assessment process are documented page 46.

Figure 3.2 Northern Star risk management structure
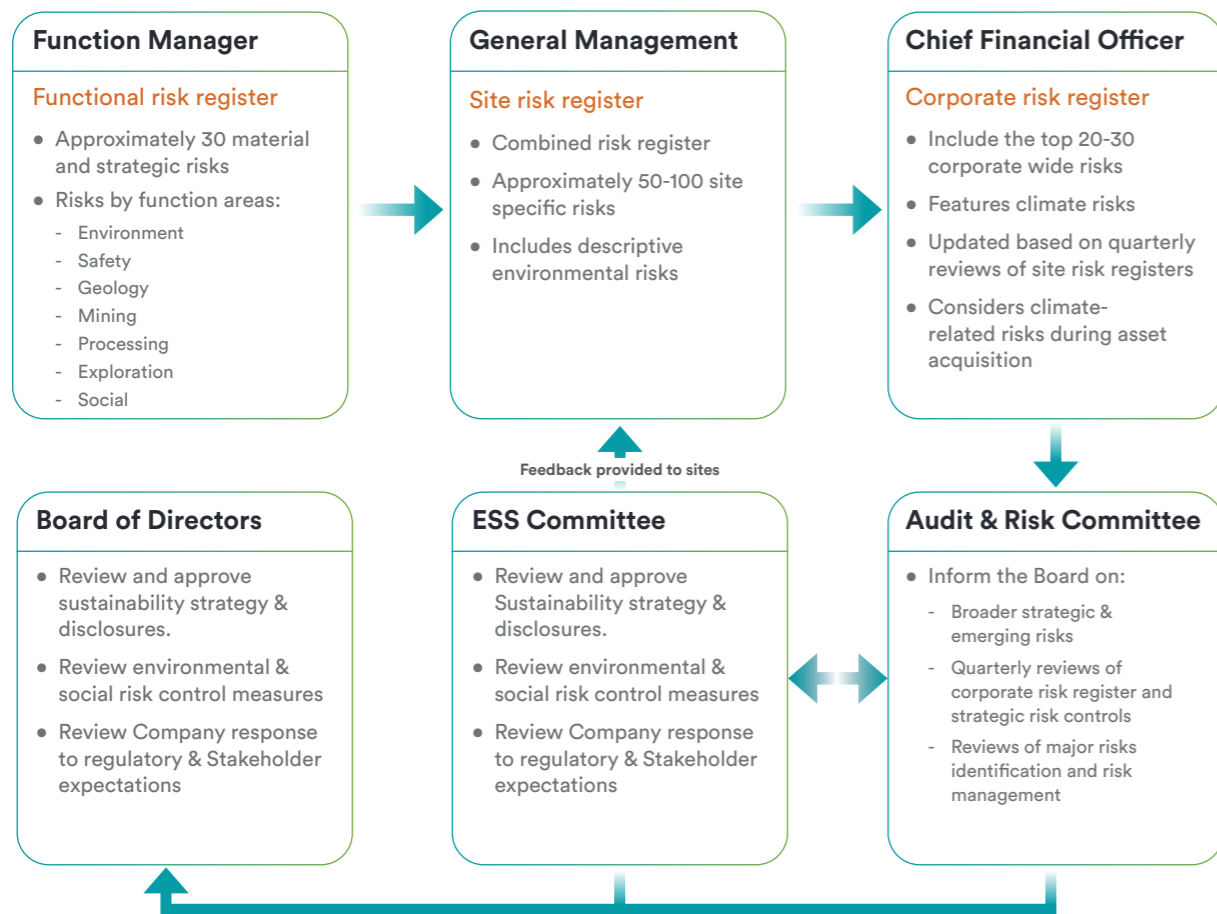
Climate Change-Related Risk and Opportunity

Transitional and physical risks to Northern Star and its Operations located in Western Australia, Northern Territory and Alaska were identified in the TCFD risk assessment to 2030 using Northern Star's corporate register assessment criteria. The risks, drivers and potential impacts were reviewed and validated in workshops with a multi-disciplinary group of senior employees.

Two physical climate models were selected for the Australian and Alaskan sites to assess "best" and "worst" projections using local scenarios[1].

For all models, the United Nations Framework Convention on Climate Change's (UNFCCC) high emissions scenario (RCP8.5) was used to assess impacts to 2030. This scenario recognises that the physical impacts of climate change are similar across emissions scenarios to around 2040 due to inertia in the world's climate system[2].

By 2030[1] these models suggest that our sites in Australia will experience hotter and drier conditions, while Alaska will be warmer and wetter. »

Figure 3.3 High, medium and low inherent risk ratings

Inherent Risk Rating	Priority	Description
High	1	• High inherent risks are generally considered unacceptable • The implementation of mitigating strategies to be actively pursued • Notification to, and approval to conduct or continue activity required from, Executive management prior to commencement or continuation when first identified or assessed as high risk • A risk owner is appointed to ensure mitigation strategies are pursued and progress reported at least quarterly to the Audit and Risk Committee
Medium	2	• Medium risks, where appropriate, further risk mitigation strategies should be considered and applied as practicable. • A risk owner is appointed to ensure that all aspects relating to the risk and its mitigation are managed
Low	3	• Low risks, where appropriate, further risk mitigation strategies should be considered as part of the process of continuous improvement • A risk owner is appointed to ensure that all aspects relating to the risk and its mitigation are managed

Figure 3.4 Northern Star climate change risk summary to 2030 under each TCFD risk category

Physical Risks	2	5	2	Transitional Risks	8	11
Chronic Risks driven by gradual changes to weather patterns, e.g temperature, rainfall	1	3	1	**Market** Risks driven by changing market behaviours	1	4
Acute Risks driven by worsening extreme weather-related events	1	2	1	**Reputation** Risks driven by Stakeholder concern	1	1
				Policy / Legal Risks driven by regulatory changes	4	4
				Technology Risks linked to transitioning to low emission technologies	2	2

Legend

\# Number of high risks identified

\# Number of medium risks identified

\# Number of low risks identified

Scientific models[1] suggest that our sites in Australia will experience hotter and drier conditions, while Alaska will be warmer and wetter.

» The full list of climate change related risks to our Operations to 2030, the description of these risks and potential impacts, as well as their relative inherent risk ratings are disclosed in Appendix 2.

Stages 2 and 3 of our reporting under the TCFD recommendations, planned in CY2020, will consider the opportunities arising from climate change to our business. An example being potential demand increase due to new applications and emerging technologies such as carbon reduction or longer growing seasons benefiting revegetation efforts during reclamation and closure.

[1] Climate data was collected from the Climate Change in Australia (CSIRO & BoM, 2015; CNRM-CM5 as worst case, GFDL-ESM2M as worst case) and Climate Change Knowledge Portal (CCKP; World Bank Group, 2018; Alaskan site; CESM1-CAM5 as best case, Miroc-ESM as worst case) online resources and baseline data from the Bureau of Meteorology, CCKP and the National Weather Service Forecast Office. Where needed, the climate data historical baseline was adjusted to better estimate future change. The most common historical baseline was 1986-2005, updated to 1999-2018 (centred on 2008). 2030 projections are typically averages across 2019-2040.

[2] IPCC, Climate Change 2001: Synthesis Report, https://archive.ipcc.ch/ipccreports/tar/vol4/011

Table 3.1 High inherent risk climate change risks to 2030 and mitigating practices

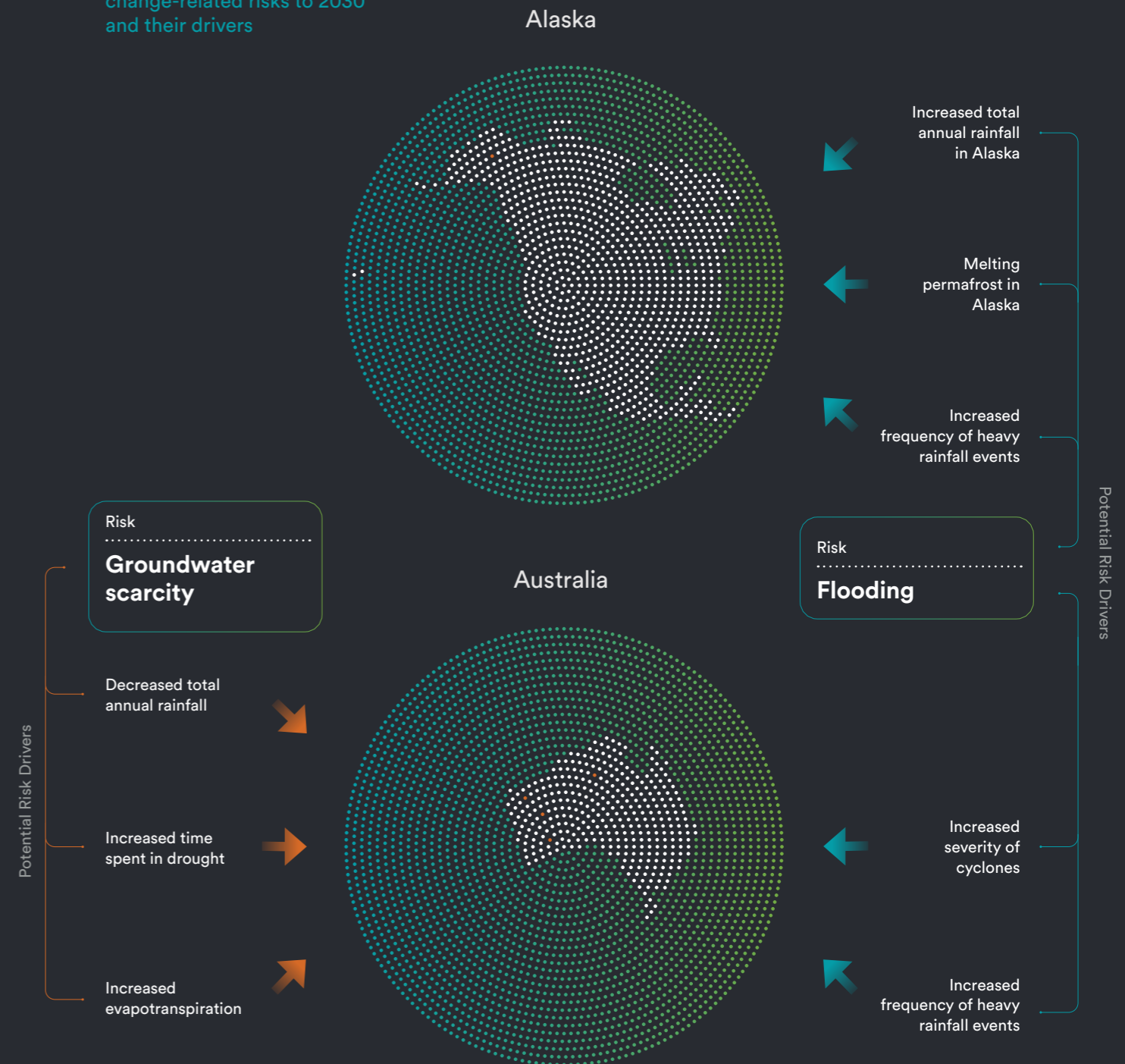| Risk	Inherent* risk rating	Current mitigating practices	Future mitigating practices
Groundwater scarcity	High	• Borefield monitoring at all sites • Third party annual and triennial reviews of usage and aquifer health at WA sites. • Preparing new borefield at Jundee. • Recycle water usage with UG and Processing at Jundee, KB, Pogo, Kundana and SKO • Decant water re-use from tailings at Jundee, KB and SKO	**Short Term (1-3 years)** • Develop group water security strategy (including the identification of consumption metrics and baseline data). • Set a water intensity reduction target across water stressed areas **Medium Term (3-5 years)** • Investigate options for transitioning away from highly water reliant technologies for new projects.
Flooding	High	• Flood management included in site-based management plans for Pogo, SKO & Kundana. • Surface water management infrastructure (e.g. diversion ditches, bunds) at all sites. • Detailed road construction standards included in traffic management plans at Paulsens and Jundee.	**Short Term (1-3 years)** • Include road construction standards in the Pogo and Kalgoorlie traffic management plans. • Introduce flood management into site-based emergency management plans at Jundee, KB, Tanami & Paulsens. • Review flood mitigation infrastructure for each site. • Update and review current risk profile of storm events (1-in-50 year event). • Complete scenario analysis as per TCFD Recommendations. **Medium Term (3-5 years)** • Identify water storage areas onsite to handle and store increased water prior to treatment/disposal.

Goodpaster river adjacent to our Pogo Operations, Alaska.

44

* Residual risks will be calculated during CY2020

High Inherent Risks

Based on our risk assessment to 2030, Northern Star recognises two high inherent risks related to the physical impacts of climate change. A review of current controls and an assessment of potential future options will occur during CY2020.

The key risk drivers for these two risks are illustrated in Figure 3.5. Current and future controls for the two high inherent risks are outlined in Table 3.1.

Figure 3.5
High inherent climate change-related risks to 2030 and their drivers

Alaska

Increased total annual rainfall in Alaska

Melting permafrost in Alaska

Increased frequency of heavy rainfall events

Potential Risk Drivers

Risk
Groundwater scarcity

Decreased total annual rainfall

Increased time spent in drought

Increased evapotranspiration

Potential Risk Drivers

Australia

Risk
Flooding

Increased severity of cyclones

Increased frequency of heavy rainfall events

Deep Dive: Governance and the TCFD Recommendations

This deep dive reviews the Governance steps Northern Star has taken so far in adopting the TCFD Recommendations.

TCFD Core Areas

The 11 TCFD Recommendations are designed to solicit consistent, decision-useful forward looking information on the material financial impacts of climate-related risks and opportunities for Northern Star. This section reviews the Governance steps Northern Star has taken so far in adopting the TCFD Recommendations.

During CY2018, Northern Star began including climate-related risks in its corporate risk register, namely risks around decreasing water availability as a result of lower annual rainfall near Northern Star's operations (a physical risk), and uncertainty associated with the impact on Northern Star's business of energy market pricing changes (a transitional risk).

During CY2019, Northern Star commenced its journey in adopting the TCFD Recommendations. which are based on four core areas, see figure 3.6.

Figure 3.6 TCFD Recommendations: Core Areas

- Governance
- Strategy
- Risk Management
- Metrics and Targets

Government Related Disclosures

The two Governance related disclosures are:

1. **The Board's oversight of climate-related risks and opportunities:**
- the processes and frequency by which the Board and/or Board committees are informed about climate-related issues;
- whether the Board and/or Board committees consider climate-related issues when reviewing and guiding strategy and performance, amongst other things; and
- how the Board monitors and oversees progress against goals and targets for addressing climate-related issues

2. **Management's role in assessing and managing risks and opportunities:**
- whether Northern Star has assigned climate-related responsibilities to management-level positions or committees;
- whether such management positions or committees report to the Board or a committee of the Board;
- whether those responsibilities include assessing and/or managing climate-related issues;
- a description of the associated organisational structure;
- processes by which management is informed about climate-related issues; and
- how management (through specific positions and/or management committees) monitors climate-related issues

Summary

Steps one to three completed so far meet the following TCFD Recommendations on Governance disclosures:

- The Board through its quarterly ESS Committee meetings has and will continue to be informed about climate-related issues;
- Through the Audit and Risk Committee's review of the Company wide risk register, and the Board's review of the Company's corporate risk register which will include the two physical climate-related risks, the Board is well placed to understand the impact of climate change related risks on the business.
- Northern Star's SR & ER Manager has climate-related responsibilities, and reports to the Executive Chair as well as to the ESS Committee at ESS Committee meetings, which include assessing and/or managing climate-related issues; and
- Regular reviews of the risk register including the climate-related risks provides a mechanism for monitoring climate-related issues and mitigating strategies for the impact of risks on the Company's business.

Northern Star's Staged Approach

Step 1 Gap analysis & benchmarking current TCFD governance disclosures

The Board's Environmental, Social & Safety (ESS) Committee at one of its quarterly meetings approved adoption of the Recommendations. Northern Star's Social Responsibility and External Relations (SR & ER) Manager, and Senior Environmental & Social Responsibility (ESR) Adviser, in conjunction with Energetics (a specialist energy and carbon management consultancy in Australia):

- conducted a gap analysis between the TCFD required Governance disclosures, and Northern Star's existing governance and risk management processes. This involved internal discussions across the disciplines in management and with the ESS Chair, and an appraisal of Northern Star's Annual Reports, Sustainability Reports and relevant internal policies and procedures;

- identified the practices which Northern Star is already undertaking but has not to date disclosed in a consistent, decision-useful way for its investors, for disclosure in this and future Sustainability Reports; and

- completed a benchmarking exercise against certain industry peers of Northern Star, with an emphasis on gold mining assets and emissions-intensive companies, to set a baseline reference point for Northern Star's actions and disclosures in relation to climate-related risks and opportunities, against relevant industry peers.

The ESS Committee received a summary and a comprehensive report on the gap analysis, and benchmarking exercises. This allowed Northern Star's Directors and senior management to understand the relative maturity of disclosures by Northern Star and its peers, and to develop an action plan towards adopting the TCFD Recommendations over the next few years.

Step 2 Workshop One: identify and validate physical and transitional risks

The CEO approved Northern Star's SR & ER Manager, and Senior ESR Adviser to work with Energetics to identify and validate the key physical (acute and chronic) and transitional risks (market shifts, reputational risks, technology changes, regulatory and policy changes, and legal risks) to Northern Star's business, during a robust workshop involving the following Northern Star Executive and senior management:

- Chief Financial Officer
- Chief Geological Officer
- General Counsel & Company Secretary
- Chief Development Officer
- General Manager Processing
- General Manager Exploration
- General Manager Technical Services
- General Manager Finance
- Investor Relations & Business Development
- Legal Counsel & Assistant Company Secretary
- Land Administration Geologist

Step 3 Workshop Two: rate the inherent risks

The senior management group and Energetics formed a second workshop to assess, from a qualitative view, the potential consequences and likelihoods of the events identified occurring over the next ten year period for the Company's current operations, assuming continuing operation to 2030, and rated the inherent risks using the Company's current risk register matrix.

This resulted in identification of additional physical and transitional inherent risks. Two physical risks were allocated a high inherent risk rating (flooding and groundwater scarcity). This elevated them to the corporate risk register under the oversight of the Chief Financial Officer and the Audit and Risk Committee, as distinct from the risks having less impact on the Company's business which are managed by the relevant functional or site risk register.

Step 4 (planned) Workshop Three: rate the residual risks

During CY2020, the senior management group will identify the current mitigating practices and controls, assess the residual risk rating after applying those mitigating practices and controls to the inherent risk rating, and arrive at a residual risk rating.

Step 5 (planned) Workshop Four: plan further mitigation actions

During CY2020, the senior management group will identify potential next steps for strengthening risk mitigation to improve the residual risk rating over time.

— PEOPLE —
THE CENTRE
OF OUR
SUCCESS

Engaging and developing our people

" Our people will always remain our biggest resource and the quality of people our greatest differentiator. "

Peta Slocombe

Executive Manager – Capability & Culture

I t has been said that talent wins games, but it is teamwork that wins championships. At the centre of Northern Star's success will always be our people.

The development of our people and culture has continued in CY2019 to focus not only on the attraction, development and retention of high calibre employees, but the way in which we work together to create collaborative high performing teams.

The implementation of an organisational culture program based on our STARR Core Values, increased communication channels within the business, and a more collaborative 'One Team' approach across sites has helped to maximise our employees' experience and improve our business performance.

Northern Star is also proud this year to have engaged in initiatives designed to enhance the communities in which we operate.

»

People Snapshot

200
Trained mental health first aiders

2,667
Our Workforce: direct employees & contractors

49
Current Apprentices

16%
Female participation rate
(Australian Industry Sector average*)

86
Australian Graduates and Vacation Students

* Workplace Gender Equality Agency (WGEA) female participation levels for mining.

David Percival,
Stores / Purchasing,
Kalgoorlie Operations

People Performance

" Everything we commit to as a company is designed to reflect our STARR Core Values, and a sustainable approach to our people, our mines and the communities in which we operate."

Bill Beament

Exectuive Chair

Our Workforce: Local Employment

Our workforce comprises 1,844 employees and 823 contractors as of 31 December 2019, taking our total workforce to 2,667.

Northern Star is committed to providing employment opportunities within the countries and communities in which we operate.

Australia local employment

We have maintained residential employment of approximately 81% in the Goldfields Region (Western Australia), continuing a focus on assisting to sustain the communities in which we operate.

Northern Star has partnered with the Goldfields-Esperance Development

Commission (GEDC) to provide employment opportunities to migrants and refugees relocating to the Kalgoorlie-Boulder region. With the assistance of the Goldfields Community Legal Centre, Northern Star have provided additional settlement support to assist employees under this program to successfully integrate into the local community.

In March 2019, Northern Star attended Explore Opportunities in the Country exposition in Perth, showcasing employment opportunities for migrants. This was facilitated by the GEDC at the request of the South Sudanese Community in Perth. Northern Star has placed three employees since engaging in this program.

Figure 4.1
Our age demographics

>60
3%

<21
3%

51-60
14%

21-30
29%

41-50
19%

31-40
32%
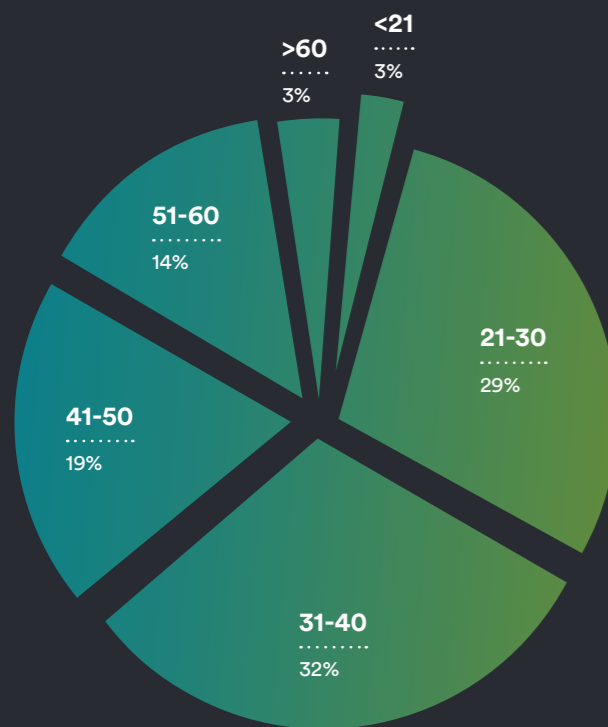
81%

Percentage of residential employment in the Goldfields region

" We continue to focus on assisting to sustain the communities in which we operate. "

Mental Health and Wellbeing

Mental health is a significant health issue impacting people globally. Poor mental health is the biggest cause of preventable death in people between 15-44 years of age globally. Social and geographical isolation, reduced access to services, and shift work can complicate the lives and homes of the communities in which our employees live and work. Well documented impacts of poor mental health include compromised safety due to loss of concentration and poor sleep quality. Supporting good mental health is an important contribution we can make to the wellbeing of our workforce, their families, and the communities in which we operate.

Northern Star have been awarded Gold Standard Mental Health status with Mental Health First Aid Australia, training 200 of our workforce during CY2019, with a target of 20% of our employees to be trained by 31 March 2020. Increasing the number of our employees who have received training in Mental Health

First Aid assists in improving our employees' health and wellbeing, by arming peers with strategies, education and referral information to help identify and offer support to their co-workers and friends who may be suffering from poor mental health. We are proud that our Executive Manager Capability and Culture has also trained over 100 family members, contractors and local suppliers as accredited Mental Health First Aiders.

In addition to offering our employees a one or two day training course in Mental Health First Aid at most of our operations, two of the other initiatives we undertake to play our part in reducing the stigma that can be associated with poor mental health and enhancing employee wellbeing, are "R U OK Day" and participation in the Push Up Challenge for Mental Health, by headspace (The National Youth Mental Health Foundation in Australia).

Developing our People

Capability framework

CY2019 saw the development of a capability framework designed to identify the competencies required for achieving Northern Star's strategic plan. The University of Western Australia's School of Organisational Psychology, and representatives from the Future of Work Institute at Curtin University in Western Australia, assisted Northern Star in the development of custom designed training programs for emerging leaders and high performing teams.

Customised coaching & development

Additionally, employees across the business who were identified by their managers as having high leadership potential, were provided with extensive profiling in relation to psychological and behavioural characteristics. This resulted in customised coaching development plans which were designed to improve their capabilities such as strategic thinking, critical reasoning, and people and resource management. Northern Star accepted an invitation to present the program to the Society of Industrial and Organisational Psychologists at a conference held at Columbia University, New York in May 2019.

Growth opportunities

In CY2019, 64 Australian employees had the opportunity to gain international experience through secondments at our Pogo Mine in Alaska.

Our development in people is also reflected in 157 promotional opportunities and 53 'Higher Duties' opportunities.

" When people join Northern Star, they don't only become part of the business, they help shape it's future. "

Peta Slocombe

**Executive Manager -
Capability and Culture**

The Pogo Environmental team
conducting compliance monitoring

Left to right: John Salzman, Katie Schumacher,
and Dina Barkhuff

Kalgoorlie Environmental and Social Responsibility team members: Kratonga Ohuma and Yvonne Hynes

» Diversity and Inclusion

Our female participation rate at 31 December 2019 is 16% (Australian industry sector average). The Company continues to increase its female participation within both graduate and senior level roles. In CY2019, the Company increased the number of female Non-Executive Directors from one to two (40% participation on the Board, excluding the Executive Chair) and increased the number of women in senior leadership roles to 9 (24% participation on the senior leadership team of 38). Northern Star has two female Executives (25% participation on the Executive team of 8 including the Executive Chair).

We continue to support flexible work arrangements across all our operations for men and women. Options include part-time flexible

work arrangements, job-sharing, working from home days, and casual employment.

Subsequent events

With the acquisition of our 50% share in KCGM, on 3 January 2020, our female participation rate has risen to 18.9%.

CY2019 Diversity

Female Non-Executive Director participation	**40%**
Female Executive participation	**25%**

Veterans Employment

In early 2019, Northern Star became a proud supporter of the Prime Minister's Veterans Employment Program in Australia.

Recently we partnered with Working Spirit, a Western Australian based not-for-profit agency who assist veterans with their transition into civilian employment, to host a networking event with leaders to discuss potential opportunities for veterans within our team. Skilled veterans

from across a number of disciplines within the Australian Defence Force attended. Those who have been identified by leaders as potential Northern Star employees are progressing through the recruitment process for employment in early 2020 or upon completion of their Australian Defence Force service. This initiative provides a valuable source of people with critical skills needed in our business, and supports those who have served Australia.

Skills of the Future

Apprentices

Investment in our future skills has included the development of a trades pipeline, investing in various mining disciplines and creating work experience opportunities.

Our apprenticeship program which has grown over the last 4 years incorporates 8 disciplines and is 3 to 4 years in duration depending on the trade requirements. As at 31 December 2019, Northern Star employed a total of 49 Apprentices including 4 females. Recruitment of our 4th intake is underway which will see 16 additional Apprentices commencing with the business in 2020.

Graduates

Our two-year graduate program incorporates five mining related disciplines. The program includes a self-guided learning component which encourages graduates to drive their own professional development to meet agreed milestones, in addition to supervisor support in the form of quarterly development planning and assessment.

We have continued to work closely with national and international universities through the attendance of career fairs and partnerships to provide a platform for students and industry to connect. We are proud to confirm that all graduates who successfully completed our program in CY2019 have been offered permanent roles in the business.

> **Northern Star has continued to invest in future skills by developing a trades pipeline, investing in various mining disciplines and creating work experience opportunities.**

Due to low numbers in Australian university enrolments in mining related disciplines, Northern Star has broadened the talent pool source by employing mining related disciplines from overseas through employer sponsored 407 training visas.

Graduating students from the University of Alaska and Montana Tech have commenced their two-year graduate program with Northern Star in the Mining Engineering and Geology disciplines at Pogo.

Pogo has also partnered with MAPTS (Mining & Petroleum Training Service) and the Delta Mine Training centre to assist participants in developing the skills required for entry level employment in the mining industry. Participants receive a Certificate of Mining, with training focussed on mining operations, safety regulations and camp life.

2019 Australian Graduate Program and Senior Leaders

» Vacation work Australia

Our vacation work experience program in Australia focuses on 5 mining related disciplines. The program is designed to be a hands-on experience, where students are rotated to different areas on site. They are provided with ongoing casual employment, and opportunities to return for vacation work and fast track their careers through early acceptance on our graduate program. In CY2019 in Australia we offered first year students vacation work in an effort to increase enrolments in mining related courses. This not only benefits the Company in terms of securing future talent but also benefits the communities in which we operate, through higher numbers of students living in the local communities in which we operate.

Culture

In February Northern Star conducted its inaugural Culture Checkpoint survey to understand the experiences of our growing and increasingly diverse workforce.

The survey measured our STARR Core Values of Safety, Teamwork, Accountability, Respect and Results, along with how we engage, develop, lead and manage change. The Culture Checkpoint also helped us to understand the key components of what drives our people and what matters most to them about their work life.

Results and recommendations from the survey were presented to our senior leadership forum, at all sites, and to the Board. Embedded into departmental and leadership decision making processes, the results have formed the foundation of numerous initiatives throughout the year. These include:

- Adoption of a new onboarding, communications and engagement platform to enable all of our people to receive regular and consistent communications about Company activities

- Building a One Team approach now we are in operation across the Northern and Southern hemispheres

- Using technology to increase collaboration and mentoring

- Increasing capability through customised leadership courses

- Adding to our now industry leading wellbeing and mental health programs

One of the most positive outcomes has been the level of engagement in Northern Star's ongoing culture by leaders who refer regularly to the results. The culture survey will be undertaken annually.

The development of our people and culture has continued in CY2019 to focus not only on the attraction, development and retention of high calibre employees, but the way in which we work together to create collaborative high performing teams.

Lee-Anne Albertini
Administration Officer

Case Study:
Flexible Work Arrangements

One of the key focus areas for Northern Star to increase female participation rates is to explore flexible working opportunities.

In December 2019, one of our Kalgoorlie employees spoke at a regional Women in Mining forum in Kalgoorlie about her experience with flexible work arrangements at Northern Star upon her return from parental leave.

She highlighted the support from Northern Star she has received to date and how it has enabled her to balance her career and family life.

" **Northern Star have been fantastic in supporting me to return to work flexibly shortly after having my son. I love my job and really missed it while I was on parental leave. I'm looking forward to more events where I can share my experience and encourage others to return to work.**"

Chloe Smith

HR Advisor

SUSTAINABLE DEVELOPMENT GOALS

People Performance

Our alignment with the UN Sustainable Development Goals through our People Performance.

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

### Mental health support for our communities

Provision of the accredited Mental Health First Aid Australia program to our employees and communities, as detailed on page 53, increases the skills, strategies and education available to provide support to coworkers, families and communities in relation to mental health.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Skills development for our nearby communities

We are pleased to partner with the Mining and Petroleum Training Services (MAPTS) program and the Delta Mine Training Centre to assist in education and skills development of local communities in Alaska. The MAPTS program provides opportunities for entry level employees to develop skills that increase their employability in the local area. The Delta Mine Training Centre, based in the town of Delta Junction, has been developed to provide quality mining education to the community situated closest to our Pogo Operations.
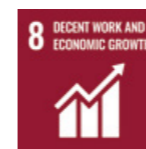
8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training

Haul truck donation to enhance education pathways

Northern Star is dedicated to supporting multiple education pathways in our regional communities. This is evident through our increasing numbers of employed university graduates and vacation students, and apprentices through Technical and Further Education (TAFE) education. In CY2019 we donated a haul truck to the Central Regional TAFE – Kalgoorlie Campus to assist in creating a curriculum to better suit the apprentices and ensure they have an opportunity to interact and learn with the latest technology.

Governance Ethics & Transparency

TRANSPARENCY IS KEY TO A SUSTAINABLE FUTURE

The foundation of our business

" Good corporate governance facilitates effective functioning of the Board and promotes investor and Stakeholder confidence in our business, fostering the creation of long-term sustainable value. "

Hilary Macdonald
....
General Counsel & Company Secretary

Corporate governance

Our STARR Core Values of Safety, Teamwork, Accountability, Respect and Results are the foundation on which we conduct our business and underpin our commitment to upholding a corporate governance framework, policies and practices of the highest standard. Strategic planning, accountability, ethical business practices, effective risk management, well-managed legal and regulatory compliance, and transparency to our Stakeholders are all elements of our governance commitment.

As reported in our FY2019 Corporate Governance Statement, Northern Star elected to achieve early alignment with the new fourth edition of the ASX Corporate Governance Council Principles and Recommendations (Recommendations). Throughout 2019, the Company's corporate governance practices were in line with all Recommendations, except Recommendation 2.5 (that the chair of the board of a listed entity should be an independent director). As the Executive Chair is not an independent Director, the Lead Independent Director acts as Chair of the Board in the Executive Chair's absence or where the Executive Chair is unable to act due to his lack of independence.

The Board is structured to ensure an optimum balance of Director skills, experience and tenure

to align with the Company's strategic plan.

In CY2019 the Company appointed two highly experienced engineers and resource industry professionals, Mary Hackett and Nick Cernotta, as Independent Non-Executive Directors effective on 1 July 2019.

The majority of the Board, being five of the six Directors, are Non-Executive Directors and considered independent in accordance with the Company's Policy on Assessing the Independence of Directors, in line with the Recommendations. Two of the six Directors (33%) are female and Board tenure ranges from 6 months to 12 years.

As an ASX 100 company that elected to report early against the new fourth edition ASX Corporate Governance Council Principles and Recommendations, the Board in its FY2019 Corporate Governance Statement set a measurable objective of achieving at least 30% of Directors of each gender by 31 December 2021. We are pleased to have achieved that objective 2 years early, at 14 November 2019.

We are also pleased to demonstrate alignment with the Australian Institute of Company Directors' four year campaign launched in 2015 to reach a target of 30% of all board seats to be filled by women.   »

Left to right: **Edward Meagher, Neville Ram, Sipho Moyo**

» Why is gender diversity on our Board important? Gender diversity on boards provides a more diverse mix of views and perspective informed by life experience, produces a more holistic analysis of company issues, can raise board performance and reduces the risk of groupthink. Workplace gender equality is associated with increased organisational performance, enhanced organisational reputation, and improves the organisation's ability to attract talent and retain employees. There is access to a larger talent pool when workplaces are appealing to women and men alike. Access to leadership roles regardless of gender is a vital step towards improved workplace gender equality. This is backed by an extensive range of research and studies; the business case for women on boards is supported by the Australian Government's Workplace Gender Equality Agency.

The performance and skillset of the Board is reviewed by the Lead Independent Director in conjunction with the Chair each year. The Non-Executive Directors formally meet at least four times a year without management present, to promote free and frank discussion, including appraisal of the Executive Chair's performance and the effectiveness of the Chief Executive Officer and Executive Chair roles.

The Board oversees Northern Star's sustainability objectives. The Board's Audit & Risk Committee, and Environmental, Social & Safety (ESS) Committee, also have responsibility to assist with governance and risk management oversight, as follows:

- The Audit & Risk Committee oversees the internal financial control systems and risk management systems and assessments, and makes recommendations to the Board.

The Committee has four members, all Non-Executive Directors, one of whom has relevant financial qualifications and experience.

- The ESS Committee assists the Board to implement our Sustainability Vision, providing deeper oversight in relation to workplace health and safety, diversity, environmental risk management, community and social responsibility, business ethics and commercial innovation. The ESS Committee has three members, two independent Non-Executive Directors and the Executive Chair, and is chaired by a Non-Executive Director with demonstrable, relevant experience - currently Mary Hackett.

The Board of Directors are ultimately accountable for Northern Star's positive corporate culture and governance practices, including ensuring compliance with the Company's Code of Conduct, policies and procedures, and the legislative and regulatory framework in which we operate. The Board are committed to maintaining a sound understanding of corporate governance requirements, emerging trends and stakeholder expectations, and regularly review our principles and processes to ensure we observe and maintain best practice in this space.

Northern Star's FY2019 Corporate Governance Statement provides more detailed disclosure on our corporate governance processes and practices, available on our website: www.nsrltd.com/about/corporate-governance.

Our governance relationship web is depicted on page 68.

> " Our STARR Core Values of Safety, Teamwork, Accountability, Respect and Results are the foundation on which we conduct our business and underpin our commitment to upholding a corporate governance framework, policies and practices of the highest standard. "

Hilary Macdonald
General Counsel & Company Secretary

Risk Mitigation and Management

The Company acknowledges that there is risk associated with all business activity and that maintaining a strong culture, backed by strong risk management processes, is essential to effective and robust management of risk. We also understand that Stakeholders value greater transparency in the disclosure of risks and how they are managed.

The Board's risk appetite is embodied in the Company's risk registers which are maintained and regularly reviewed across all Operations in the business. The regular discussion and identification of inherent risks, the rating of their possible consequences and impact on the business; and the current and planned mitigation actions is monitored on a quarterly basis through a risk register review process overseen by the Audit & Risk Committee, the results of which are regularly reported to the Board. The Audit & Risk Committee is also supported by our internal audit function which assists the Board in fulfilling its responsibilities regarding compliance and risk management.

Our vision is to continue to build a safe, quality mining and exploration company, focused on creating value for Shareholders. To achieve this, Northern Star maintains an ongoing commitment to continuous improvement in how we identify, assess and mitigate inherent risks in the business. The regular appraisal of risks and their potential impact on the business means that our Board receives the most up to date information about the business, enabling them to make strategic decisions regarding risks which affect the Company now, but also those which have potential to impact our success in the future. The addition of new Directors to the Board necessarily introduces more diversity of thought and perspective in risk assessments, as well as contributing fresh enquiry into the effectiveness of current and planned mitigating actions on the

risk register. The addition of new projects and businesses also demands a re-appraisal of our risk matrix for the risk ratings and consequences, which will occur in CY2020.
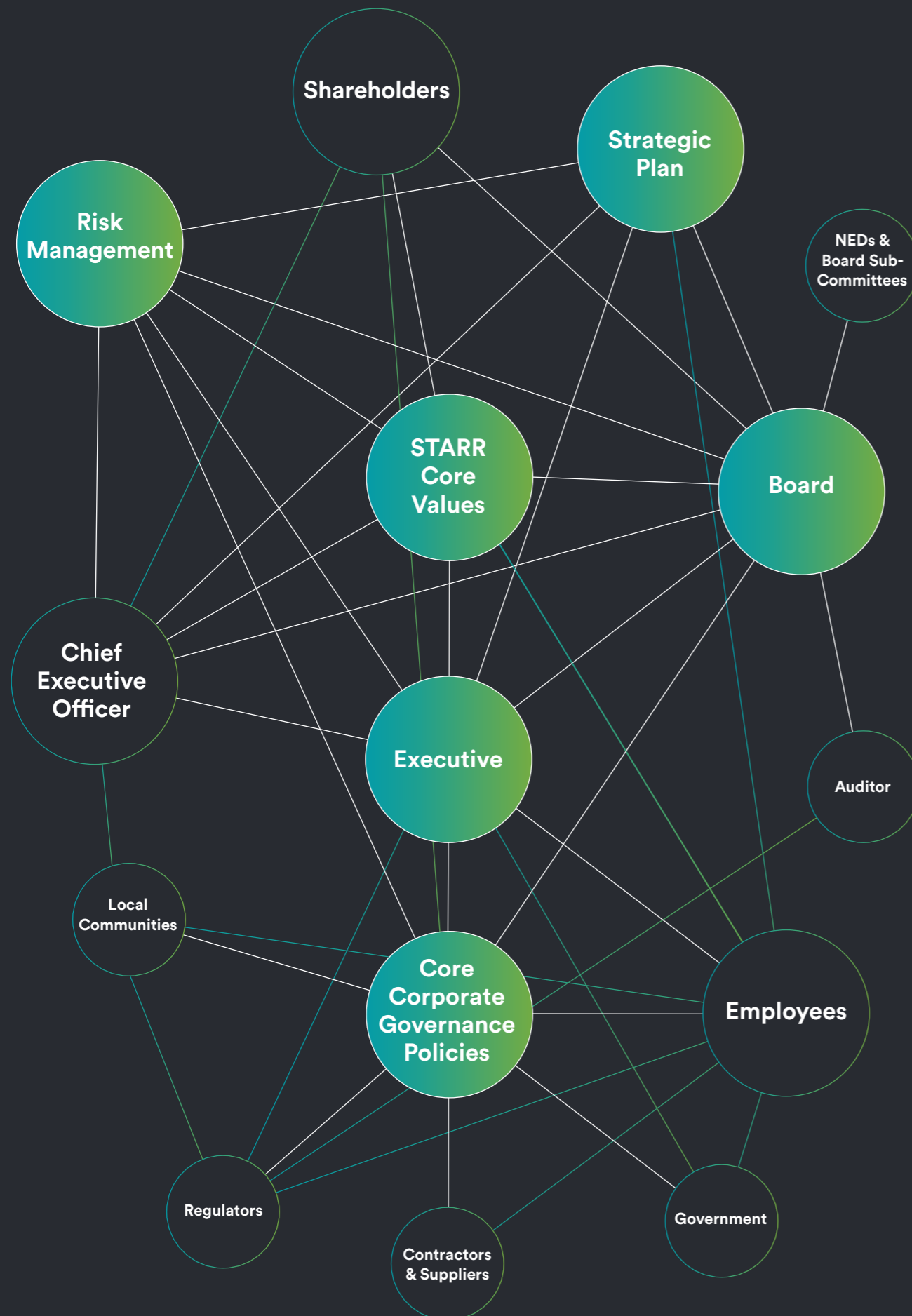
Northern Star drives an effective risk management culture by:

- identifying that risk management is a fundamental aspect of the Company's decision-making processes;

- seeking to empower all levels of the business to assess and manage risks;

- ensuring material risks are identified, objectively assessed and where appropriate risk mitigation actions are effected to reduce residual risk;

- reviewing risk registers on a quarterly basis, which are reported to and assessed by the Audit & Risk Committee; and

- the establishment of crisis management systems across the business.

In 2019, representatives from various disciplines within the Company embarked on a comprehensive risk assessment process to identify and assess the risks posed to our business by climate change in line with the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). See the TCFD deep dive on page 46 for further details.

For a summary of the Company's environmental, social and safety risks to which the Company has a material exposure as at 30 June 2019, disclosed in accordance with Recommendation 7.4 of the ASX Corporate Governance Council Principles & Recommendations, see the Risk Management section of our FY2019 Annual Report published on our website: www.nsrltd.com/investor-media/reports/annual-reports/.

»

Our Governance Relationship Web

Shareholders

Strategic Plan

Risk Management

NEDs & Board Sub-Committees

STARR Core Values

Board

Chief Executive Officer

Executive

Auditor

Local Communities

Core Corporate Governance Policies

Employees

Regulators

Contractors & Suppliers

Government

Ethical Business Practices

Northern Star is committed to upholding lawful, moral and ethical practices in our business operations and in our dealings with suppliers, Stakeholders and the local communities in which we operate.

How Northern Star achieves its sector leading safety practices, and delivers its outstanding shareholder returns, is central to our STARR Core Values. These and our Code of Conduct, Anti-Bribery and Anti-Corruption Policy and associated policies hold our Directors, management and employees accountable to exercise integrity in their decisions and behaviour, act ethically in the best interests of our Shareholders, comply with all laws and company policies and provide a moral compass for the way Northern Star does business. These policies are provided to all new employees and contractors.

The core policies subject to Board review annually are available on our website: www. nsrltd.com/about/corporate-governance.

Our Code of Conduct sets out Northern Star's objectives of:

- increasing Shareholder value within an appropriate ethical framework;
- complying with the Company's governance framework of controls and accountability, with transparency and integrity.

Our Anti-Bribery and Anti-Corruption Policy covers all aspects of our business.

We encourage employees and other Stakeholders to report known or suspected breaches of the Code of Conduct and any other unethical, illegal or improper behaviour.

Our Whistleblower Policy provides for a confidential, anonymous and retaliation-free process for people to report their concerns. Whistleblower notifications, Code of Conduct concerns and potential conflict of interest discussions are standing items on all Board agendas.

> Being transparent in relation to governance and risk is fundamental to Stakeholder trust and investor confidence. This underpins the substance and method of our disclosures.

Transparency in disclosure

Being transparent in relation to governance and risk is fundamental to building and maintaining Stakeholder trust and investor confidence. This underpins the substance of our disclosures. The TCFD deep dive on page 46 is a relevant example of enhanced disclosures.

In addition to the rigour applied to its continuous disclosure practices, Northern Star regularly reviews and enhances its periodic disclosures to ensure openness, fairness and accountability in our external communications.

As in previous years, we invited Shareholders to submit questions to our Board and Auditors in advance of our Annual General Meeting and

welcomed further questions from the floor. We also pursue regular meetings with proxy advisors.

These practices provide opportunities for deeper clarity, insight and transparency on our business operations and governance practices, for the benefit of all Shareholders and Stakeholders.

We continue to voluntarily publish the Company's annual Tax Corporate Governance Statements as part of our commitment to transparency. Our voluntary reporting under the Australian Voluntary Tax Transparency Code is located on the Northern Star website, under Corporate Governance (www.nsrltd.com/about/corporate-governance.)

Social Performance

COMMUNITIES
- VALUE -
OUR
PRESENCE

We're engaging with Stakeholders and delivering socio-economic returns

" Northern Star commits to openly engage with our Stakeholders and deliver socio-economic returns to the regions in which we operate. "

Dr Guy Singleton

Social Responsibility & External Relations Manager

We understand that our Operations can have an impact on the social and cultural well-being of local communities and the regions in which we operate. Our expanding business footprint delivers substantial employment and economic returns across Australia and Alaska. Beyond this significant contribution, we aim to generate shared value for our Stakeholders within areas we can have the greatest positive impact.

By upholding our Sustainability Vision, and conducting business activities according to our Code of Conduct, we are confident in our ability to operate our business in a manner that is respectful of our Stakeholders and value-adding to our host regions and their communities. »

Social Snapshot

Record company economic value add

A$**1.44**B

Corporate tax and government royalties

A$**101**M

Community investment commitment

74%

increase from CY2018

Fairbanks, Alaska

" Our Pogo Operation has a significant socio-economic impact on Interior Alaska, providing hundreds of high paying jobs to local residents "

Wendie McNaughton
External Relations Manager, Pogo

Social Performance

External Stakeholder Engagement

We commit to open, transparent and respectful engagement with our Stakeholders wherever we conduct business activities, ensuring those outside our business receive relevant, accurate and timely information on past, current and future activities.

Northern Star's framework for managing a diversity of important relationships with our Stakeholders is shaped by both the Stakeholder Mapping Standard and Stakeholder Engagement Standard, which all sites (including development and exploration projects) are required to comply with.

All our operating mines and processing facilities have dedicated Environment and Social

Responsibility (ESR) teams who act as the point of contact for external Stakeholders. This allows Stakeholders to access information on points of interest as required.

We implement complaints and grievance mechanisms across all our Operations, proactively encouraging Stakeholders to formally raise a grievance or make a complaint if they have concerns about our business activities, in the knowledge that their matter will be respectfully dealt with.

No official complaints were received from external Stakeholders via our company-wide complaints and grievances mechanisms during CY2019.

Economic Return to Society

We acknowledge that our economic return to society is a material issue for many Stakeholders, and that it is important for us to be able to transparently quantify how our business contributes to the local, state and national economies of the regions we operate. In CY2019, we generated over A$1.44B in payments through government royalties, taxes, employee wages, procurement of goods and services, interests and dividends, and donations.
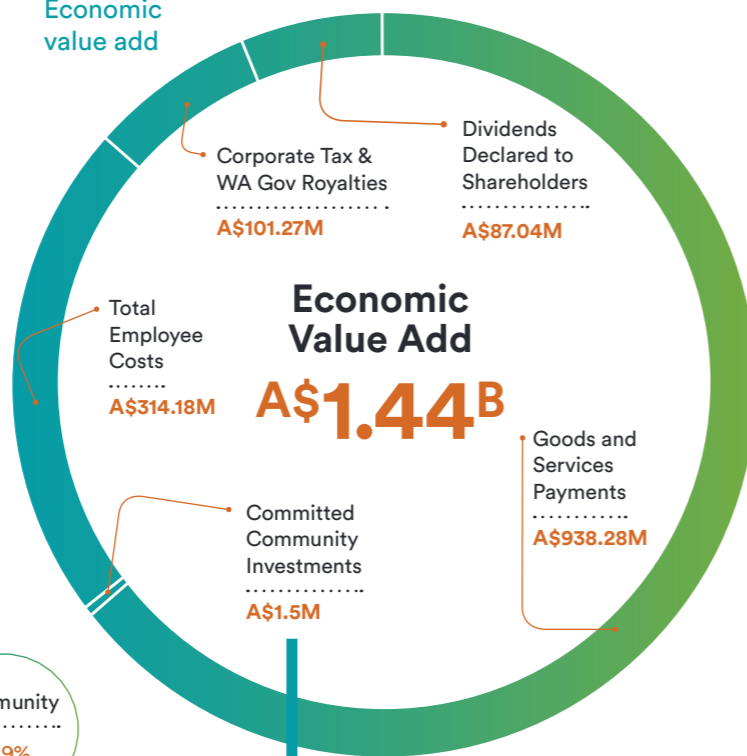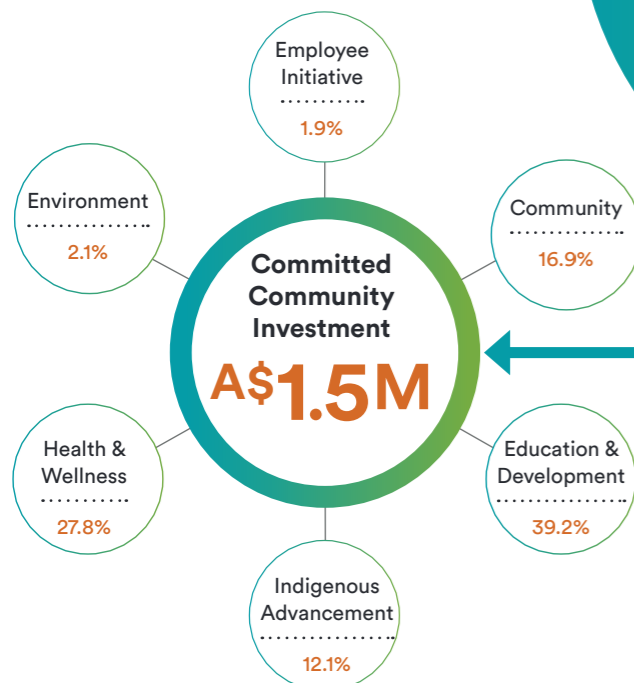
Figure 6.1
Economic value add

Corporate Tax & WA Gov Royalties
A$101.27M

Dividends Declared to Shareholders
A$87.04M

Total Employee Costs
A$314.18M

Economic Value Add
A$1.44B

Goods and Services Payments
A$938.28M

Committed Community Investments
A$1.5M

Figure 6.2
Community Investment

Employee Initiative
1.9%

Community
16.9%

Environment
2.1%

Committed Community Investment
A$1.5M

Health & Wellness
27.8%

Education & Development
39.2%

Indigenous Advancement
12.1%

Community Investment

In CY2019, we increased our commitment of direct financial community investment by 74% (from CY2018) to over A$1.5M* across a range of initiatives that align with our Community Investment Framework.

* Due to invoicing timeframes some payments were not made in CY2019.

Local Procurement

By purchasing goods and services locally we provide significant regional economic development opportunities for local businesses within the regions in which we operate.

Our primary local procurement areas are the Goldfields Region of Western Australia, and the Fairbanks/Delta Junction Region of Alaska, USA.

Figure 6.3
Local Procurement Spend by area

Fairbanks, Delta Junction & North Pole
US$27,036,144*

Total Local Procurement*
A$246M

Goldfields
A$207,795,985
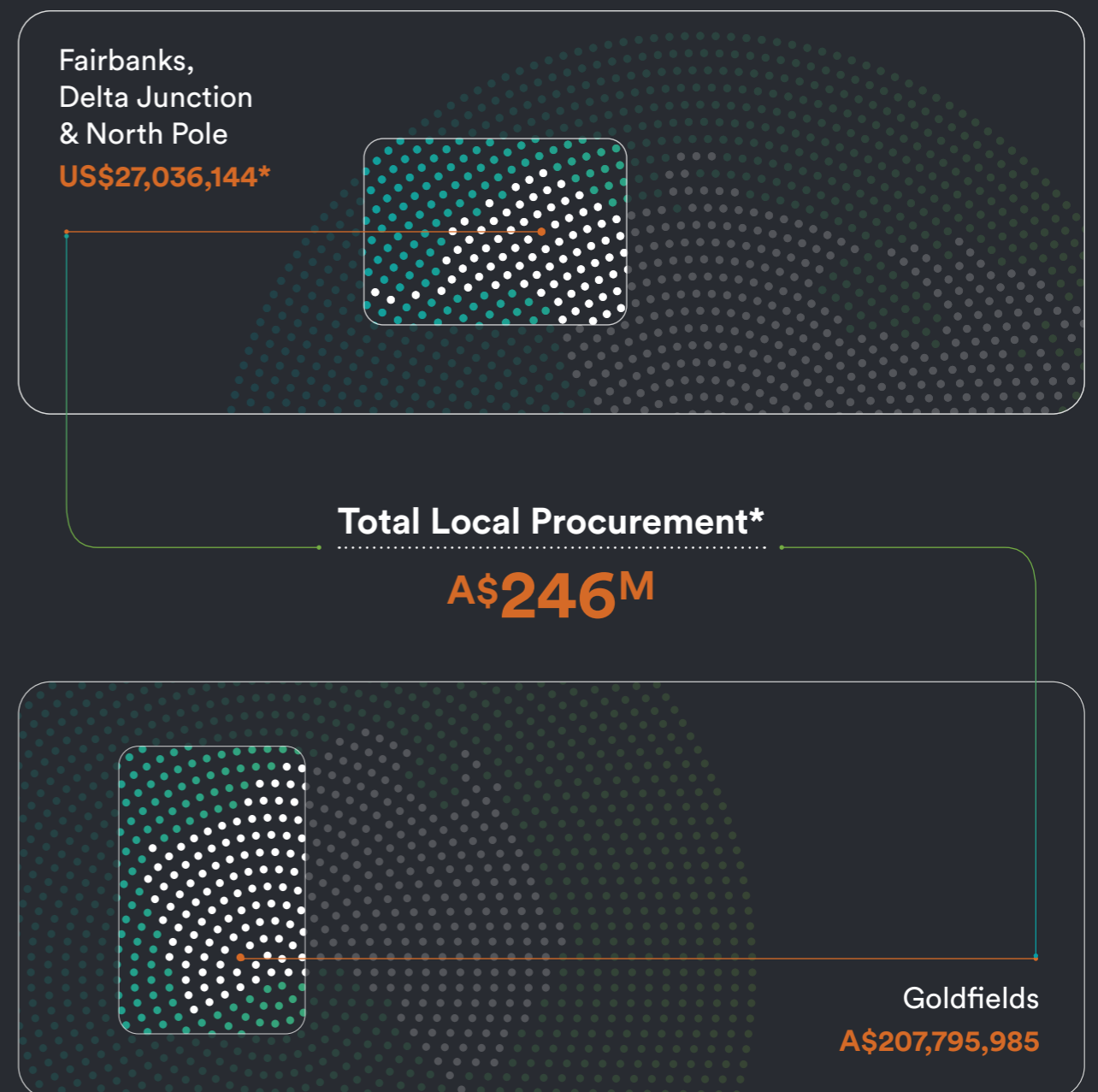
* Alaska data is captured for May – December 2019 only due to change over in procurement software; ** AUD:USD exchange rate applied 0.70

Modern Slavery

Northern Star acknowledges human rights as a legitimate set of moral principles of which every human being is inherently entitled to regardless of their personal, social, economic, cultural or geographic circumstances. We recognise our role in advancing the human rights of all people involved in, or impacted by, our business practices.

Modern slavery encompasses human rights violations including human trafficking, slavery and slavery-like practices such as forced labour, debt bondage and discriminatory employment practices. Northern Star acknowledges that modern slavery in its supply chain is a business risk that requires action to identify and mitigate. Northern Star welcomed the Australian Government's introduction of the Modern Slavery Act 2018 (Cth) (Act).

In its CY2018 Sustainability Report, Northern Star published its first voluntary modern slavery statement on risks of modern slavery in our Operations and the supply chains, and measures taken to mitigate those risks.

> **We recognise our role in advancing the human rights of all people involved in, or impacted by, our business practices.**

Heritage Responsibility

Responsible heritage management is consistently raised as a material issue by our first people's stakeholders. Our Management of Cultural and Heritage Sites Standard ensures we take a respectful approach to interacting with areas of cultural concern and any landforms or artefacts that reside within them. All our Australian Operations are covered by locally specific heritage agreements with relevant Traditional Owner groups. These agreements set out the terms for interacting with, protecting and managing heritage assets. In Alaska, we have an agreement with the University of Alaska to help manage cultural assets at our Pogo mine.

Since its 2018 statement, the Company has:

- assessed the results of its 2019 supplier modern slavery survey;

- identified key risks to the business to be further evaluated;

- identified opportunities for the Company to collaborate with suppliers to ensure that our standards and expectations regarding advancement of human rights and reducing the risk of modern slavery in our supply chains are met;

- continued to improve its new supplier onboarding processes;

- trained the entire legal, external relations and social responsibility teams, our key procurement personnel in Australia and North America, and key General Managers to identify modern slavery risks, by completing the Anti-Slavery Australia course, conducted by the facility of Law at the University of Technology, Sydney; and

- adapted a Supplier Code of Conduct, setting out our minimum requirements for all suppliers, including a commitment to undertake modern slavery due diligence.

In 2020, Northern Star will:

- publish its first mandatory modern slavery statement under the Act; and

- undertake a more detailed risk assessment of its leading suppliers based on the 2019 supplier modern slavery survey data, to identify suppliers that may be at a high risk of non-compliance with the Act.

Figure 6.4 CY2019 Heritage Incidents
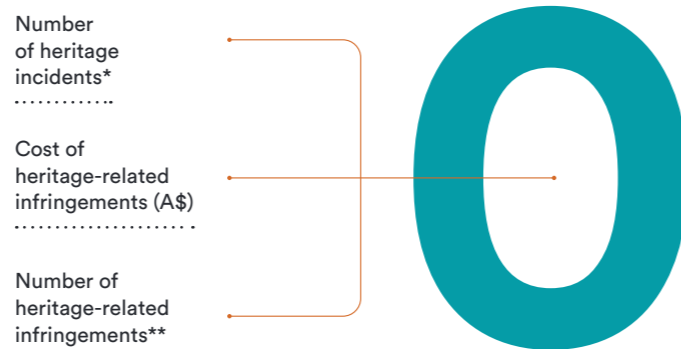
Number of heritage incidents*
....

Cost of heritage-related infringements (A$)
....

Number of heritage-related infringements**

0

*Direct unauthorised physical damage to a site of specific heritage value; **Regulator administered penalty for breach of heritage-related legislation

Indigenous Peoples

> **We acknowledge the diversity of First Peoples of Australia and Alaska, whose lands we are privileged to operate on. We recognise their rights and values and respect their cultures as indigenous peoples.**

Responsible and respectful engagement of Indigenous Peoples is paramount to the success of the business and aligns with our Respect STARR Core Value.

Wherever appropriate, we maintain agreements with Aboriginal groups to ensure a mutually agreed set of terms for interacting with the land and its natural assets. These agreements are negotiated by applying a Free Prior Informed Consent (FPIC) model.

Since 2014, we have partnered with multiple Australian Aboriginal groups to establish a Ranger contracting model, whereby Aboriginal Rangers develop the skills required to deliver professional environmental compliance services to our mine sites. The shared value from these programs is significant; Aboriginal people develop a business model that allows them to work on traditional lands and actively manage environmental outcomes. Northern Star receives professional compliance work while partnering on the development of a local contractor. In 2016, we participated in a research project led by the Australian Government that showed Aboriginal Ranger programs can deliver a social return on investment of up to 3.4 : 1 which reaffirms the value in continuing to support the development of these partnerships.

Since 2014, we have paid over A$830,000 to Australian Aboriginal Rangers for professional environmental contracting services.

In Australia, we support a range initiatives and programs that deliver outcomes for our host Traditional Owners, largely linked to support for education, employment and environmental management. For greater detail please see our Community Investment section.

Our Alaskan Operations are located on 100% State of Alaska land.

A$830,000

Payments to Australian Aboriginal Rangers for professional environmental contracting services since 2014

Goldfields Rangers preparing seedlings for use in regeneration programs, Kalgoorlie, Australia

Case Study:
Clontarf Foundation

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

Main image: Eastern Goldfields College students at a Clontarf event in Kings Park; inset: EGC students at the Clontarf Awards Night

In CY2019 Northern Star formed a partnership with the Clontarf Foundation, a not-for-profit organisation that uses a unique, innovative and highly successful approach to target increased educational outcomes for one of the most at risk groups in contemporary Australian Society – young Aboriginal and Torres Strait Islander men.

Through our Kalgoorlie Operations in Australia, we support Clontarf to mentor, and counsel students on a range of behavioural and lifestyle issues using supportive relationships and environments. Students develop improved self-esteem and confidence which enables them to participate in education, employment and broader society in an increasingly positive and meaningful way.

SUSTAINABLE DEVELOPMENT GOALS

Social Performance

Our alignment with the UN Sustainable Development Goals through our Social Performance.

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

Community health investment

Northern Star continues to prioritise the health of our people, their families and the wider communities in which we operate. In CY2019, over A$400,000 was invested in community health programs across our areas of operation. In Alaska, through our Pogo Operations, we continued our partnership with the American Heart Association to aid in promoting their healthy living movement – the Healthy for Good initiative. This initiative aims to rally communities to live healthier lives, inspire lasting lifestyle changes and unify people, centred on the belief that making a small change today creates differences for generations to come.

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

Remote Aboriginal education, Australia

The Australian Government's 2018 Closing the Gap Report highlights that Indigenous school attendance is lower in remote areas than in non-remote areas, ranging from 86.8 per cent in Regional areas to 64.6 per cent in Very Remote areas. Our Jundee Operations are located approximately 50 kilometres from the remote townsite of Wiluna, where we continue to support the Wiluna Remote Community School in increasing education levels among the local community. Through ongoing food donations and hosting high attendance dinners, children are encouraged to continue their attendance at the school. The food donations provided by our Jundee Mine allow the school-based dietician to develop nutritionally balanced meals for the students. The high attendance dinners celebrate those students who have participated in school for 80% of a term and are hosted at the Jundee Mine.

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including through access to financial services

Indigenous Ranger partnerships

Since 2014, Northern Star has helped Aboriginal groups across Western Australia and the Northern Territory to develop economically sustainable contracting arms of their existing Indigenous Ranger environmental programs. We support fee for service environmental compliance models whereby local Aboriginal groups deliver environmental compliance works to our mine sites. We pay professional rates for their services, which reduces the group's reliance on funding to sustain ranger programs, as well as providing a pathway for employment within the resources sector.

Appendix 1: UN SDG Alignment

Sustainable Development Goal 1

No Poverty

End poverty in all its forms everywhere

Target		Indicators		Alignment
1.1	By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day	1.1.1	Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	Indigenous Ranger employment programs across multiple Australian sites for environmental compliance works provides employment and business development opportunities for Australia's most economically-marginalised demographic of peoples.
1.2	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	1.2.1	Proportion of population living below the national poverty line, by sex and age	
		1.2.2	Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	
1.3	Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	1.3.1	Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable	
1.4	By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	1.4.1	Proportion of population living in households with access to basic services	Indigenous Ranger employment programs across multiple Australian sites for environmental compliance works provides employment and business development opportunities for Australia's most economically-marginalised demographic of peoples.
		1.4.2	Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure	
1.5	By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	1.5.1	Number of deaths, missing persons and persons affected by disaster per 100,000 people	
		1.5.2	Direct disaster economic loss in relation to global gross domestic product (GDP)	
		1.5.3	Direct disaster economic loss in relation to global gross domestic product (GDP)	
1.A	Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions	1.A.1	Proportion of resources allocated by the government directly to poverty reduction programmes	
		1.A.2	Proportion of total government spending on essential services (education, health and social protection)	
1.B	Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions	1.B.1	Proportion of government recurrent and capital spending to sectors that disproportionately benefit women, the poor and vulnerable groups	

Sustainable Development Goal 2

Zero Hunger

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Target		Indicators		Alignment
2.1	By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	2.1.1	Prevalence of undernourishment	Via our Jundee Mine we support the Wiluna Remote Community School healthy food and nutrition program, ensuring that their students receive sufficient nutrition/sustenance/food to support their learning and development. The majority of Wiluna's population identifies as Aboriginal.
		2.1.2	Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)	Ongoing contributions to Red Cross Soup Patrol in Kalgoorlie which provides a hot evening meal to some of the most vulnerable and marginalised people in the community. Support the Salvation Army Christmas Food Drive which provides Christmas hampers to struggling families over the festive period.
2.2	By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	2.2.1	Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age	
		2.2.2	Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)	
2.3	By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment	2.3.1	Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size	
		2.3.2	Average income of small-scale food producers, by sex and indigenous status	
2.4	By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	2.4.1	Proportion of agricultural area under productive and sustainable agriculture	
2.5	By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed	2.5.1	Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities	
		2.5.2	Proportion of local breeds classified as being at risk, not-at-risk or at unknown level of risk of extinction	
2.A	Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries	2.A.1	The agriculture orientation index for government expenditures	
		2.A.2	Total official flows (official development assistance plus other official flows) to the agriculture sector	
2.B	Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round	2.B.1	Producer Support Estimate	
		2.B.2	Agricultural export subsidies	
2.C	Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility		Indicator of food price anomalies	

Good Health & Well-being

Ensure healthy lives and promote well-being for all at all ages

Target		Indicators		Alignment
3.1	By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	3.1.1	Maternal mortality ratio	
		3.1.2	Proportion of births attended by skilled health personnel	
3.2	By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	3.2.1	Under-five mortality rate	Multiyear A$1 million donation to directly support children's medical research through the Telethon Children's Institute.
		3.2.2	Neonatal mortality rate	
3.3	By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	3.3.1	Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations	
		3.3.2	Tuberculosis incidence per 1,000 population	
		3.3.3	Malaria incidence per 1,000 population	
		3.3.4	Hepatitis B incidence per 100,000 population	
		3.3.5	Number of people requiring interventions against neglected tropical diseases	
3.4	By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being	3.4.1	Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease	Provide funding for the Perth Children's Hospital Science of the Swab Research Project which is developing new laboratory tests to allow easy identification of Strep A bacteria, a significant cause of disease among Aboriginal and Torres Strait Islander children between 5 and 14 years of age resulting in heart damage. Ongoing support of the Goldfields Children's Charity and Goldfields Women's Health Care Centre in Kalgoorlie which provide support for families living with ill children and access to suitably qualified women's health professionals to regional communities. Health care insurance is provided to all permanent employees and their families to assist with maintaining a healthy lifestyle and reduce the risk of future instances of cardiovascular disease, cancer, diabetes or chronic respiratory disease. Our health care provision includes access to the Best Doctors program, providing access to health specialists across the globe for second opinions. Investment in the health of the Alaskan community through a partnership with the American Heart Association's Healthy for Good initiative. First Aid and CPR training is provided to our employees on a regular basis.
		3.4.2	Suicide mortality rate	Accredited mental health first aid training provided to over 200 of employees across our operations as well as community members in Kalgoorlie and Fairbanks. We provide a confidential Employee Assistance Program to our workforce.
3.5	Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol	3.5.1	Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Major sponsor of the Sideffect Australia - Goldfields Roadshow, providing drug awareness presentations tailored to high school students. We provide a confidential Employee Assistance Program to our workforce. Correct storage of harmful substances at our operations in close proximity to nearby communities to prevent access and abuse. e.g. inhaling of spray paint. Zero tolerance to illicit substance use at our operations. Illicit substance and alcohol testing is compulsory for new hires and conducted throughout employment at our operations.
		3.5.2	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol	We provide a confidential Employee Assistance Program to our workforce. Zero tolerance to illicit substance use at our operations. Illicit substance and alcohol testing is compulsory for new hires and conducted throughout employment at our operations.

Target		Indicators		Alignment
3.6	By 2020, halve the number of global deaths and injuries from road traffic accidents	3.6.1	Death rate due to road traffic injuries	Traffic Management Plans at all our operations outlining road rules and operator requirements for using vehicles ensure risks associated with usage are kept to a minimum.
3.7	By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes	3.7.1	Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods	
		3.7.2	Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group	
3.8	Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	3.8.1	Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Provided two Medical Elective Scholarships to the Perth Children's Hospital Foundation to enable final year medical students take part in an elective placement in a regional or remote community in Australia.
		3.8.2	Proportion of population with large household expenditures on health as a share of total household expenditure or income	Health care insurance is provided to all permanent employees and their families to assist with maintaining a healthy lifestyle and reduce the risk of future instances of cardiovascular disease, cancer, diabetes or chronic respiratory disease.
3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3.9.1	Mortality rate attributed to household and ambient air pollution	Automated continuous monitoring system at our Kanowna Belle operation to ensure emissions generated from ore processing are constantly within threshold limits set by regulators and present no net negative effect on surrounding communities.
		3.9.2	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)	
		3.9.3	Mortality rate attributed to unintentional poisoning	
3.A	Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate	3.A.1	Age-standardized prevalence of current tobacco use among persons aged 15 years and older	
3.B	Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all	3.B.1	Proportion of the population with access to affordable medicines and vaccines on a sustainable basis	Multiyear A$1 million donation to directly support children's medical research through the Telethon Children's Institute.
		3.B.1	Total net official development assistance to medical research and basic health sectors	Multiyear A$1 million donation to directly support children's medical research through the Telethon Children's Institute.
3.C	Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States		Health worker density and distribution	
3.D	Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks		International Health Regulations (IHR) capacity and health emergency preparedness	

Quality Education

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Target		Indicators		Alignment
4.1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	4.1.1	Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex	Direct donations and support initiatives to local schools in the remote areas where we operate (Kalgoorlie, Delta Junction and Wiluna).
4.2	By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.1	Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex	High Attendance Student Dinners hosted at Jundee Mine as an incentive to encourage attendance at the Wiluna Regional Primary School. Pupils who attend school for 80% of the term are invited to the Dinner. Historical evidence confirms student engagement in learning and development has increased through this initiative.
		4.2.2	Participation rate in organized learning (one year before the official primary entry age), by sex	
4.3	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	4.3.1	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	Provide scholarships to students at the University of Alaska and Western Australian School of Mines. Donation of a haul truck fitted with the latest technology to the Kalgoorlie TAFE to assist in creating a curriculum to better suit apprentices. Increased numbers of Apprenticeship and Graduate positions provided at our operations to provide increased employment and career pathways for youth. Partnership with the Clontarf Foundation to provide support to Indigenous student education and employment in the Goldfields Region of Western Australia. Ongoing support of the Wiluna Remote Community School and Wiluna TAFE which provides vocational education and employment training for local residents who reside in a highly remote region.
4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	4.4.1	Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill	Support for the Delta Mine Training Centre as part of Alaska's Mining and Petroleum Training Service Program. The Program aids in increasing employable skills for entry level employees in regional communities. Strategic support to the Western Australian School of Mines over 10 years to expand specialist underground skills and innovation including automation and digital transformation.
4.5	By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	4.5.1	Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated	
4.6	By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	4.6.1	Percentage of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex	Via our Jundee Mine we support the Wiluna Remote Community School healthy food and nutrition program, ensuring that their students receive sufficient nutrition/sustenance/food to support their learning and development. The majority of Wiluna's population identifies as Aboriginal. High Attendance Student Dinners hosted at Jundee Mine as an incentive to encourage attendance at the Wiluna Regional Primary School. Pupils who attend school for 80% of the term are invited to the Dinner. Historical evidence confirms student engagement in learning and development has increased through this initiative. Partnership with the Clontarf Foundation to provide support to Indigenous student education and employment in the Goldfields Region of Western Australia.

Target		Indicators		Alignment
4.7	By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	4.7.1	Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment	Support of the Delta Mine Training Centre to provide quality mining education to local community in Alaska.
4.A	Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all		Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)	
4.B	By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries		Volume of official development assistance flows for scholarships by sector and type of study	Provide scholarships to students at the University of Alaska and Western Australian School of Mines.
4.C	By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States		Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country	

Gender Equality

Achieve gender equality and empower all women and girls

Target		Indicators		Alignment
5.1	End all forms of discrimination against all women and girls everywhere	5.1.1	Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex	Strong implementation of our Equal Employment Opportunity Policy. Support for multiple external gender equality initiatives e.g. Women in Mining Western Australia.
5.2	Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1	Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age	
		5.2.2	Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence	Ongoing support of the Goldfields Women's Health Care Centre in Kalgoorlie which provides access to suitably qualified women's health professionals to regional communities.
5.3	Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.1	Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18	
		5.3.2	Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age	
5.4	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	5.4.1	Proportion of time spent on unpaid domestic and care work, by sex, age and location	Flexible working arrangements for non-shift work roles.
5.5	Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.1	Proportion of seats held by women in national parliaments and local governments	
		5.5.2	Proportion of women in managerial positions	40% of women in Non-Executive Director roles. 25% of women in Executive roles. 24% of women in Senior Leadership roles.
5.6	Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	5.6.1	Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care	
		5.6.1	Number of countries with laws and regulations that guarantee women aged 15-49 years access to sexual and reproductive health care, information and education	
5.A	Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws	5.A.1	(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure	
		5.A.2	Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control	
5.B	Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	5.B.1	Proportion of individuals who own a mobile telephone, by sex	
5.C	Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels	5.C.1	Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment	

Clean Water & Sanitation

Ensure availability and sustainable management of water and sanitation for all

Target		Indicators		Alignment
6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1	Proportion of population using safely managed drinking water services	
6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1	Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water	
6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	6.3.1	Proportion of wastewater safely treated	
		6.3.2	Proportion of bodies of water with good ambient water quality	The Off-River Treatment Works at Pogo ensure any water discharged back into the Goodpaster River is of the same water quality as the river water itself. This prevents impact to the Goodpaster River from mine operations.
6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	6.4.1	Change in water-use efficiency over time	
		6.4.2	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	
6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	5.5.1	Degree of integrated water resources management implementation (0-100)	
		5.5.1	Proportion of transboundary basin area with an operational arrangement for water cooperation	
6.6	By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	6.6.1	Change in the extent of water-related ecosystems over time	
6.A	By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	6.A.1	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	
6.B	Support and strengthen the participation of local communities in improving water and sanitation management	6.B.1	Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	

Affordable and Clean Energy

Ensure access to affordable, reliable, sustainable and modern energy for all

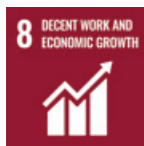| Target		Indicators		Alignment
7.1	By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.1	Proportion of population with access to electricity	
		7.1.2	Proportion of population with primary reliance on clean fuels and technology	
7.2	By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1	Renewable energy share in the total final energy consumption	
7.3	By 2030, double the global rate of improvement in energy efficiency	7.3.1	Energy intensity measured in terms of primary energy and GDP	
7.A	By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	7.4.1	Mobilized amount of United States dollars per year starting in 2020 accountable towards the $100 billion commitment	
7.B	By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support	7.A.1	Investments in energy efficiency as a percentage of GDP and the amount of foreign direct investment in financial transfer for infrastructure and technology to sustainable development services	

Decent Work & Economic Growth

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Target		Indicators		Alignment
8.1	Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries	8.1.1	Annual growth rate of real GDP per capita	Economic value add of A$1.44 billion through government taxes, royalties, employee wages and procurement to the regions in which we operate.
8.2	Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors	8.2.1	Annual growth rate of real GDP per employed person	Increased pressure on Original Equipment Manufacturers to fast-track development and innovation on equipment to increase business efficiencies with an onflow to economic value add.
8.3	Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	8.3.1	Proportion of informal employment in non-agriculture employment, by sex	Diversified regional contractor use in high agricultural areas. Support the Southern Deserts Matuwa Ranger Forum (Indigenous Desert Alliance) where discussions are held on the regional opportunities for Ranger Programs.
8.4	Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead	8.4.1	Material footprint, material footprint per capita, and material footprint per GDP	Indigenous Ranger employment programs across multiple Australian sites for environmental compliance works provides employment and business development opportunities for Australia's most economically-marginalise demographic of peoples.
		8.4.2	Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP	
8.5	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	8.5.1	Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	
		8.5.2	Unemployment rate, by sex, age and persons with disabilities	
8.6	By 2020, substantially reduce the proportion of youth not in employment, education or training	8.6.1	Proportion of youth (aged 15-24 years) not in education, employment or training	Provide scholarships to students at the University of Alaska and Western Australian School of Mines. Donation of a haul truck fitted with the latest technology to the Kalgoorlie TAFE to assist in creating a curriculum to better suit apprentices. Increased numbers of Apprenticeship and Graduate positions provided at our operations to provide increased employment and career pathways for youth Partnership with the Clontarf Foundation to provide support to Indigenous student education and employment in the Goldfields Region of Western Australia. Ongoing support of the Wiluna Remote Community School and Wiluna TAFE which provides vocational education and employment training for local residents who reside in a highly remote region.
8.7	Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms	8.7.1	Proportion and number of children aged 5-17 years engaged in child labour, by sex and age	

Decent Work & Economic Growth

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Target		Indicators		Alignment
8.8	Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	8.8.1	Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status	
		8.8.2	Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status	
8.9	By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products	8.9.1	Tourism direct GDP as a proportion of total GDP and in growth rate	
		8.9.1	Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs, by sex	
8.10	Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all	8.10.1	Number of commercial bank branches and automated teller machines (ATMs) per 100,000 adults	
		8.10.2	Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider	
8.A	Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries	8.A.1	Aid for Trade commitments and disbursements	
8.B	By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization	8.B.1	Total government spending in social protection and employment programmes as a proportion of the national budgets and GDP	

Industry, Innovation & Infrastructure

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

Target		Indicators		Alignment
9.1	Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.1	Proportion of the rural population who live within 2 km of an all-season road	
		9.1.2	Passenger and freight volumes, by mode of transport	
9.2	Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	9.2.1	Manufacturing value added as a proportion of GDP and per capita	
		9.2.2	Manufacturing employment as a proportion of total employment	
9.3	Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets	9.3.1	Proportion of small-scale industries in total industry value added	
		9.3.2	Proportion of small-scale industries with a loan or line of credit	
9.4	By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	9.4.1	CO2 emission per unit of value added	
9.5	Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.	9.5.1	Research and development expenditure as a proportion of GDP	Provide scholarships to students at the University of Alaska and Western Australian School of Mines. Donation of a haul truck fitted with the latest technology to the Kalgoorlie TAFE to assist in creating a curriculum to better suit apprentices. Increased numbers of Apprenticeship and Graduate positions provided at our operations to provide increased employment and career pathways for youth. Partnership with the Clontarf Foundation to provide support to Indigenous student education and employment in the Goldfields Region of Western Australia. Ongoing support of the Wiluna Remote Community School and Wiluna TAFE which provides vocational education and employment training for local residents who reside in a highly remote region.
		9.5.2	Researchers (in full-time equivalent) per million inhabitants	
9.A	Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States	9.A.1	Total official international support (official development assistance plus other official flows) to infrastructure	
9.B	Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities	9.B.1	Proportion of medium and high-tech industry value added in total value added	
9.C	Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	9.C.1	Proportion of population covered by a mobile network, by technology	Installation of mobile signal towers at remote mine sites providing phone signal to neighbouring communities and travellers.

Reduced Inequalities

Reduced inequality within and among countries

Target		Indicators		Alignment
10.1	By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average	10.1.1	Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population	
10.2	By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	10.2.1	Proportion of people living below 50 per cent of median income, by age, sex and persons with disabilities	The core trays used at our Pogo Operations are supplied from an organisation with an integrated workforce, where adults with disabilities work alongside more abled individuals.
10.3	Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard	10.3.1	Proportion of the population reporting having personally felt discriminated against or harassed within the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law	Strong implementation of our Equal Employment Opportunity Policy. Modern slavery training is completed by key staff members within the company; including Procurement, Social Responsibility, External Relations, Company Secretary and Legal. In 2019 Northern Star surveyed its current suppliers of goods and services to identify any modern slavery breaches within our supply chain.
10.4	Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality	10.4.1	Labour share of GDP, comprising wages and social protection transfers	Annual renewal of Equal Employment Opportunity Policy resulted in amendments approved by the United States' Equal Employment Opportunities Commission.
10.5	Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations	10.5.1	Financial Soundness Indicators	
10.6	Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions	10.6.1	Proportion of members and voting rights of developing countries in international organizations	
10.7	Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies	10.7.1	Recruitment cost borne by employee as a proportion of yearly income earned in country of destination	
		10.7.2	Number of countries that have implemented well-managed migration policies	
10.A	Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements	10.A.1	Proportion of tariff lines applied to imports from least developed countries and developing countries with zero-tariff	
10.B	Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes	10.B.1	Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development assistance, foreign direct investment and other flows)	
10.C	By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent	10.C.1	Remittance costs as a proportion of the amount remitted	

Sustainable Cities & Communities

Make cities and human settlements inclusive, safe, resilient and sustainable

Target		Indicators		Alignment
11.1	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1	Proportion of urban population living in slums, informal settlements or inadequate housing	Indigenous Ranger employment programs across multiple Australian sites for environmental compliance works provides employment and business development opportunities for Australia's most economically-marginalised demographic of peoples.
11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	11.2.1	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities	
11.3	By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	11.3.1	Ratio of land consumption rate to population growth rate	
		11.3.2	Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically	
11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage	11.4.1	Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)	Implementation of a Global Cultural and Heritage Sites Standard. Annual cultural resource surveys conducted at our Pogo Mine in Alaska to ensure preservation of sites with cultural value. Engagement of Aboriginal Traditional Owners in heritage site surveys prior to clearing activities at our Australian Operations.
11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	11.5.1	Number of deaths, missing persons and persons affected by disaster per 100,000 people	
		11.5.2	Direct disaster economic loss in relation to global GDP, including disaster damage to critical infrastructure and disruption of basic services	
11.6	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.1	Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities	Implementation of a Global Waste Management Standard. Reduce our single use of materials though our broad recycling program, including scrap metal, batteries, printer toner cartridges, paper, cardboard and comingled recycling wastes. Additional recycling initiatives added throughout the year included vehicle tyres.
		11.6.2	Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	Automated continuous monitoring system at our Kanowna Belle operation to ensure emissions generated from ore processing are constantly within threshold limits set by regulators and present no net negative effect on surrounding communities.

Sustainable Cities & Communities

Make cities and human settlements inclusive, safe, resilient and sustainable

Target			Indicators		Alignment
11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.1	Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities		
		11.7.2	Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months		Shifting public perception on the importance of providing safe spaces for marginalised and vulnerable groups through education and awareness of our employees via the Equal Employment Opportunity Policy and Whistle-blower Policy.
11.A	Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning	11.A.1	Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city		
11.B	By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels	11.B.1	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030a		
		11.B.2	Number of countries with national and local disaster risk reduction strategies		
11.C	Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials	11.C.1	Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials		

Responsible Consumption & Production

Ensure sustainable consumption and production patterns

Target		Indicators		Alignment
12.1	Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	1.1.1	Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies	
12.2	By 2030, achieve the sustainable management and efficient use of natural resources	12.2.1	Material footprint, material footprint per capita, and material footprint per GDP	
		12.2.1	Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP	
12.3	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses	12.3.1	Global food loss index	
12.4	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	12.4.1	Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement	
		12.4.2	Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment	
12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	12.5.1	National recycling rate, tons of material recycled	Implementation of a Global Waste Management Standard. Reduce our single use of materials though our broad recycling program, including scrap metal, batteries, printer toner cartridges, paper, cardboard and comingled recycling wastes. Additional recycling initiatives added throughout the year included vehicle tyres.
12.6	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	12.6.1	Number of companies publishing sustainability reports	This 2019 Sustainability Report is Northern Star's 4th Sustainability Report.
12.7	Promote public procurement practices that are sustainable, in accordance with national policies and priorities	12.7.1	Number of countries implementing sustainable public procurement policies and action plans	
12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	12.8.1	Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment	
12.A	Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production	12.A.1	Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies	
12.B	Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products	12.B.1	Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools	
12.C	Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	12.C.1	Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels	

Climate Action

Target urgent action to combat climate change and its impacts*

Target			Indicators		Alignment
13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	13.1.1	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies		Coordinated approach to emergency and crisis management and response with government agencies, neighbouring mining companies, local government authorities and pastoralists.
		13.1.2	Number of deaths, missing persons and persons affected by disaster per 100,000 people		
		13.1.3	Number of countries with national and local disaster risk reduction strategies		
13.2	Integrate climate change measures into national policies, strategies and planning	13.2.1	Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)		
13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	13.3.1	Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula		
		13.3.2	Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions		Commencement of reporting against the Taskforce on Climate-related Financial Disclosures Recommendations.
13.A	Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible	13.4.1	Mobilized amount of United States dollars per year starting in 2020 accountable towards the $100 billion commitment		
13.B	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities * Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.	13.A.1	Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities		

Life Below Water

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Target		Indicators		Alignment
14.1	By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	14.1.1	Index of coastal eutrophication and floating plastic debris density	
14.2	By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	14.2.1	Proportion of national exclusive economic zones managed using ecosystem-based approaches	
14.3	Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	14.3.1	Average marine acidity (pH) measured at agreed suite of representative sampling stations	
14.4	By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics	14.4.1	Proportion of fish stocks within biologically sustainable levels	Ongoing scientific monitoring of fish species in the Goodpaster River at our Pogo Mine, Alaska.
14.5	By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information	14.5.1	Coverage of protected areas in relation to marine area	
14.6	By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation	14.6.1	Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing	
14.7	By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism	14.7.1	Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries	
14.A	Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries	14.A.1	Proportion of total research budget allocated to research in the field of marine technology	
14.B	Provide access for small-scale artisanal fishers to marine resources and markets	14.B.1	Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries	
14.C	Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want	14.C.1	Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nation Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources	

Life on Land

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt & reverse land degradation and halt biodiversity loss

Target		Indicators		Alignment
15.1	By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	15.1.1	Forest area as a proportion of total land area	Supporting local non-government organisation to enhance biodiversity values including, but not limited to, annual tree planting in the Goldfields Region of Western Australia via the Kalgoorlie-Boulder Urban Landcare Group.
		15.1.1	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type	Help build capacity of Indigenous Rangers who manage Indigenous protected areas under the Australian National Parks management scheme.
15.2	By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	15.2.1	Progress towards sustainable forest management	
15.3	By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world	15.3.1	Proportion of land that is degraded over total land area	Implementation of the Jundee Biodiversity Management Plan in partnership with Indigenous Rangers to target erosion control and fire and threatened species management.
15.4	By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	15.4.1	Coverage by protected areas of important sites for mountain biodiversity	
		15.4.2	Mountain Green Cover Index	
15.5	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	15.5.1	Red List Index	Implementation of a Global Biodiversity Management Standard. Biodiversity management plans and practices have been implemented at all sites where threatened species may be present. Pre-clearance flora and fauna surveys by suitably trained personnel.
15.6	Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed	15.6.1	Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits	
15.7	Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products	15.7.1	Proportion of traded wildlife that was poached or illicitly trafficked	
15.8	By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species	15.8.1	Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species	Feral animal management and weed control activities are conducted at our operations. During 2019 our Central Tanami Operations supported a Northern Territory Government organised feral camel cull.
15.9	By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts	15.9.1	Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020	Implementation of a Global Biodiversity Management Standard. Biodiversity management plans and practices have been implemented at all sites where threatened species may be present. Pre-clearance flora and fauna surveys by suitably trained personnel.
15.A	Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems	15.A.1	Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems	Multi-million dollar annual rehabilitation budget to increase biodiversity at our operations.
15.B	Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation	15.B.1	Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems	
15.C	Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities	15.C.1	Proportion of traded wildlife that was poached or illicitly trafficked	

Peace, Justice and Strong Institutions

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Target		Indicators		Alignment
16.1	Significantly reduce all forms of violence and related death rates everywhere	16.1.1	Number of victims of intentional homicide per 100,000 population, by sex and age	
		16.1.2	Conflict-related deaths per 100,000 population, by sex, age and cause	
		16.1.3	Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months	
		16.1.3	Proportion of population that feel safe walking alone around the area they live	
16.2	End abuse, exploitation, trafficking and all forms of violence against and torture of children	16.2.1	Proportion of children aged 1-17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month	
		16.2.2	Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation	Modern slavery training is completed by key staff members within the company; including Procurement, Social Responsibility, External Relations, Company Secretary and Legal. In 2019 Northern Star surveyed its current suppliers of goods and services to identify any modern slavery breaches within our supply chain.
		16.2.3	Proportion of young women and men aged 18-29 years who experienced sexual violence by age 18	
16.3	Promote the rule of law at the national and international levels and ensure equal access to justice for all	16.3.1	Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms	
		16.3.2	Unsentenced detainees as a proportion of overall prison population	
16.4	By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime	16.4.1	Total value of inward and outward illicit financial flows (in current United States dollars)	
		16.4.2	Proportion of seized, found or surrendered arms whose illicit origin or context has been traced or established by a competent authority in line with international instruments	
16.5	Substantially reduce corruption and bribery in all their forms	16.5.1	Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months	Annual review of our Anti-Bribery and Anti-Corruption Policy.
		16.5.2	Proportion of businesses that had at least one contact with a public official and that paid a bribe to a public official, or were asked for a bribe by those public officials during the previous 12 months	
16.6	Develop effective, accountable and transparent institutions at all levels	16.6.1	Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar)	
		16.6.2	Proportion of the population satisfied with their last experience of public services	

Peace, Justice and Strong Institutions

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Target		Indicators		Alignment
16.7	Ensure responsive, inclusive, participatory and representative decision-making at all levels	16.7.1	Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions	
		16.7.2	Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group	
16.8	Broaden and strengthen the participation of developing countries in the institutions of global governance	16.9.1	Proportion of members and voting rights of developing countries in international organizations	
16.9	By 2030, provide legal identity for all, including birth registration	16.9.1	Proportion of children under 5 years of age whose births have been registered with a civil authority, by age	
16.10	Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements	16.10.1	Number of verified cases of killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and human rights advocates in the previous 12 months	
		16.10.1	Number of countries that adopt and implement constitutional, statutory and/or policy guarantees for public access to information	
16.A	Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime	16.A.1	Existence of independent national human rights institutions in compliance with the Paris Principles	
16.B	Promote and enforce non-discriminatory laws and policies for sustainable development	16.B.1	Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law	

Partnerships for the Goals

Strengthen the means of implementation and revitalize the global partnership for sustainable development

Target		Indicators		Alignment
Finance				
17.1	Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection	17.1.1	Total government revenue as a proportion of GDP, by source	
		17.1.2	Proportion of domestic budget funded by domestic taxes	
17.2	Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries	17.2.1	Net official development assistance, total and to least developed countries, as a proportion of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee donors' gross national income (GNI)	
17.3	Mobilize additional financial resources for developing countries from multiple sources	17.3.1	Foreign direct investments (FDI), official development assistance and South-South Cooperation as a proportion of total domestic budget	
		17.3.2	Volume of remittances (in United States dollars) as a proportion of total GDP	
17.4	Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress	17.4.1	Debt service as a proportion of exports of goods and services	
17.5	Adopt and implement investment promotion regimes for least developed countries	17.5.1	Number of countries that adopt and implement investment promotion regimes for least developed countries	
Technology				
17.6	Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism	17.6.1	Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation	
		17.6.2	Fixed Internet broadband subscriptions per 100 inhabitants, by speed	
17.7	Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed	17.7.1	Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies	
17.8	Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology	17.8.1	Proportion of individuals using the Internet	
Capacity-Building				
17.9	Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation	17.9.1	Dollar value of financial and technical assistance (including through North-South, South-South and triangular cooperation) committed to developing countries	

Partnerships for the Goals

Strengthen the means of implementation and revitalize the global partnership for sustainable development

Target		Indicators		Alignment
Trade				
17.10	Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda	17.10.1	Worldwide weighted tariff-average	
17.11	Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020	17.11.1	Developing countries' and least developed countries' share of global exports	
17.12	Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access	17.12.1	Average tariffs faced by developing countries, least developed countries and small island developing States	
Systematic Issues				
17.13	Enhance global macroeconomic stability, including through policy coordination and policy coherence	17.13.1	Macroeconomic Dashboard	
17.14	Enhance policy coherence for sustainable development	17.14.1	Number of countries with mechanisms in place to enhance policy coherence of sustainable development	
17.15	"Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development Multi-stakeholder partnerships"	17.15.1	Extent of use of country-owned results frameworks and planning tools by providers of development cooperation	
17.16	Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries	17.16.1	Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals	
17.17	"Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships Data, monitoring and accountability "	17.17.1	Amount of United States dollars committed to public-private and civil society partnerships	
17.18	By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts	17.18.1	Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the Fundamental Principles of Official Statistics	
		17.18.2	Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics	
		17.18.3	Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding	
17.19	By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries	17.19.1	Dollar value of all resources made available to strengthen statistical capacity in developing countries	
		17.19.2	Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration	

Appendix 2:
Climate-related risks

Climate-related risks under business as usual practices

Climate change related risks and their risk rating (high inherent risks in red, medium inherent risks in yellow and low inherent risks in green), considered with business as usual controls, are shared in Table 2.

Table 1 High, medium and low inherent risk ratings

Inherent Risk Rating	Priority	Description
High	1	• High inherent risks are generally considered unacceptable • The implementation of mitigating strategies to be actively pursued • Notification to, and approval to conduct or continue activity required from, Executive management prior to commencement or continuation when first identified or assessed as high risk • A risk owner is appointed to ensure mitigation strategies are pursued and progress reported at least quarterly to the Audit and Risk Committee
Medium	2	• Medium risks, where appropriate, further risk mitigation strategies should be considered and applied as practicable. • A risk owner is appointed to ensure that all aspects relating to the risk and its mitigation are managed
Low	3	• Low risks, where appropriate, further risk mitigation strategies should be considered as part of the process of continuous improvement • A risk owner is appointed to ensure that all aspects relating to the risk and its mitigation are managed

Table 2 Inherent climate change related risks to 2030

Risks	Sites Affected	Description	Key potential impacts
Groundwater Scarcity	Australia	Decreased average total annual rainfall causes drier surface conditions and underground aquifers to be replenished slowly.	Water competition in scarce areas could lead to community opposition and reputational impacts, environmental impacts, and difficulty obtaining groundwater extraction permits - potentially resulting in a loss of production through decreased process water availability, increased cost of dust suppression and in extreme cases limiting expansion and development opportunities and impacting potable water.
Flooding	Australia and Alaska	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.	Flooding could lead to health and safety impacts, disruption to operations, damage to equipment, environmental contamination from tailings dams, and reputational impacts.
Extreme heat days and heatwaves	Australia	Increase in the frequency of extreme heat days can cause worker health issues and impact production.	Hot weather can cause power lines to sag and short-out, leading to potential impacts on production if outages are prolonged and increased reliance on diesel generators. Employees could be impacted by increased heat fatigue and burns, and more heat-related breaks would be required.
Cyclones	Australia	Increased severity of cyclones and alteration of cyclone tracks, leading to broadening of risk region.	Damage to infrastructure or supply chain from high winds and heavy rainfall, worker injury/death, flood risk.

Risks	Sites Affected	Description	Key potential impacts
Hotter average conditions for workers and equipment	Australia	Rising average temperatures causing a hotter environment for site workers, equipment and controls.	Increased cooling costs, increased susceptibility to skin cancers and mosquito-borne diseases, reduced efficiency of equipment and associated increases in energy costs.
Bushfires	Australia and Alaska	More high-risk conditions (e.g. hot weather, dry vegetation, high winds) increases bushfire frequency and severity.	Damage to infrastructure, equipment and supply chain. Potential for employee injury or death. Increased cost of bushfire prevention and site rehabilitation.
Climate change policy evolution	Australia and Alaska	The climate change policy landscape is evolving quickly influenced by the Paris Agreement. A change in Federal government in Australia or the US has the potential to increase compliance obligations.	Financial impacts associated with costs levied on greenhouse gas emissions. Increase in resources required to manage compliance obligations.
Emissions reduction or offset requirements for new developments or expansions	Australia	There are precedents for offsetting greenhouse gas emissions from significant new or expanding development proposals in Western Australia.	New proposals would need to incorporate carbon costs, potentially impacting the value of the project. New or expanded mines may also incur higher costs to implement low emissions technology.
Removal of fossil fuel subsidies and rebates	Australia and Alaska	There is mounting global pressure to remove fossil fuel subsidies. In Australia a major focus is on the fuel tax credit. The US Congress recently introduced legislation to reform and repeal fossil fuel subsidies, although this legislation has not been passed by the Senate.	Increased cost of diesel and other fuels used in machinery, plant equipment and heavy vehicles, as well as potential increased cost of electricity from fossil fuel generation.
Increased penetration of renewable energy	Australia and Alaska	As renewable energy becomes increasingly cost competitive with fossil fuels, electricity grid operators are planning for the increased penetration of variable generation.	Uncertain electricity costs in electricity markets undergoing rapid transformation, including potential for increased market and network costs and use of batteries to maintain system security, stability and reliability, losses due to early retirement of fossil fuel assets.
Government mandated carbon charges	Australia and Alaska	Increased cost due to potential future tax or trading schemes.	Increased operating costs.
Loss of community confidence	Australia and Alaska	As communities become increasingly concerned about climate change, stakeholders may question the impacts on Northern Star's operations.	Local communities including native title holders may lobby against mining activities, impacting reputation, access to tenure, and new project approvals.
Increased dust generation	Australia	Higher average temperatures and decreased total rainfall will create drier soil, generating more dust from transport and mining activities.	Risks to health and safety, community reputational impacts, and increase cost of dust suppression.
Need for capital investment in low emissions technology	Australia and Alaska	In order to reduce emissions, companies will need to invest in low emissions technologies and renewable energy systems.	Financial impact from higher upfront capital investment, however this would be offset by lower operational costs.
Insufficient abatement from the electricity sector	Australia and Alaska	Low emissions reduction in the electricity sector increases the decarbonisation required by other industries to meet state and federal emissions targets.	Increasing financial cost of emissions offsets or low emissions technology.

Climate-related risks under business as usual practices (continued)

Climate change related risks and their risk rating (high risks in red, medium risks in yellow and low risks in green), considered with business as usual controls, are shared in Table 2.

Risks	Sites Affected	Description	Key potential impacts
Stricter environmental management and protection	Australia and Alaska	Stricter management and new regulations may be implemented to preserve biodiversity, and new areas may be classed as environmentally sensitive.	Difficulty obtaining clearing and dig permits, increased requirements for biodiversity offsets, and increased rehabilitation costs. Potential community opposition or reputation impacts.
Engineering challenges for integrating renewable energy into mine sites	Australia and Alaska	Transitioning the power supply to renewable energy requires significant expertise and planning to avoid design flaws and shortcomings.	Unexpected costs associated with delays or difficulties in obtaining land tenure or with renewable energy project development. Potential for loss of security in electricity supply, reduced performance or damage to mining equipment if design is flawed.
Stakeholder expectations	Australia and Alaska	Stakeholders are becoming increasingly concerned about climate change, putting pressure on companies to take greater climate action.	Reputational and financial impacts of failing to appropriately manage and disclose climate-related risks, including the potential loss of or difficulty to attract new employees
Changing animal range, migration and hibernation patterns	Alaska	Warmer temperatures have been linked to changes in bear hibernation and the grazing routes of their prey, which could increase the presence of bears around the Alaskan site. Other animals' ranges may be affected by climate change, resulting in potential increased presence around Northern Star sites.	Worker safety at greater risk from bears and increased associated costs for safety measures. In general, changes in local animal populations may result in stricter environmental management conditions.
Shareholder divestment	Australia and Alaska	Shareholders may change their investment decisions for not demonstrating action on climate change generally.	Difficulty attracting investors.
Higher storm surges	Australia and Alaska	Storm surges are worsened by sea level rise.	Interruption or delays to port operations and hence supply chain due to damage and/or inundation from storm surge event.
Scope 3 reporting may become mandatory	Australia and Alaska	Scope 3 emissions reporting may become mandatory for project approvals.	Requirement to develop scope 3 emissions inventory and consideration of the impact of these emissions as part of project approvals process.
Rejection of development applications due to high emissions intensity	Australia and Alaska	Emissions intensity of new proposals may be benchmarked against best practice operations and less ambitious projects may be rejected.	New proposals with high emissions intensity per unit of output may be rejected or delayed through revisions.
Supply issues from wider interconnected electricity network	Australia and Alaska	Risk of interruptions to electricity supply and power quality issues due to, for example, closure of ageing coal fired power stations and increasing penetration of renewable generation sources.	Impacts range from blackouts to voltage dips which can cause equipment to trip. This could result in delays while systems are brought back online, reduced performance or, in severe cases, damage to equipment.
Electricity and natural gas price volatility	Australia	While there is currently a domestic gas reservation policy, any threats to this policy combined with increased demand for LNG globally could expose WA electricity and natural gas users to higher and more volatile prices.	Increased energy costs pose the greatest budgeting threat to 'marginal profitability' mines. This may be exacerbated as gold becomes more difficult and costly to mine over time, due to the need to dig deeper, or due to decreasing ore grades.

Risks	Sites Affected	Description	Key potential impacts
Changes to the Safeguard Mechanism	Australia	Potential for Australia's Safeguard Mechanism policy to be expanded to cover additional sites beyond Jundee, through the lowering of emission thresholds. Existing baselines may need to be lowered.	Financial obligations could fall on facilities not previously covered by this policy and changing baselines may lead to a requirement to purchase offsets.
Uncertainty around renewable incentive schemes	Australia	Electricity purchased from the grid, and from other non-renewable power stations which meet certain conditions, attract a charge on every MWh of electricity consumed under Australia's Renewable Energy Target (RET) scheme. While the scheme is coming to an end, there is the possibility for a new or expanded and extended scheme under a change in government.	The overall impact on energy prices is unclear and will depend on the design of future schemes.
Cost of climate change risks built into insurance premiums	Australia and Alaska	Physical assets insured for extreme weather events may face higher insurance premiums as regional frequency of these events increase.	Growing insurance premiums become an increased operating cost.

Appendix 3: Tailings

Church of England Tailings Dam Management Disclosure

Site	1. Tailings Facility Name	2. Location (latitude/longitude)	3. Ownership (as of March 2019)	4. Status	5. Date of Initial Operation	6. Is the Dam currently operated or closed as per currently approved design? (Yes/No)	7. Raising Method	8. Current Maximum Height (m)	9. Current tailings storage impoundment volume (m3 as at March 2019)	10. Planned Tailings storage impoundment volume in 5 years time (m3 as planned for January 2024)	11. Most recent independent expert review (date)	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure? (Yes/No)	13. What is your hazard categorisation of this facility, based on the consequence of failure?	14. What guideline to you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified be an independent engineer (even if later certified as stable by the same or a different firm). (Yes/No)	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years? (Yes/No)	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
Ashburton	TSF	Latitude: -23.429 Longitude: 117.908	Owned and operated	Closed and Rehabilitated	December 1998	Yes	Upstream	16	2,050,000	2,050,000	Not available	No	Unknown	Not classified	Unknown	Internal	No	No	Q12.Due to the historic ownership and rehabilitation of the facility NSR holds no records for its design, construction or operation. Q18. Rehabilitation was completed in 2007 and post-closure monitoring was completed for a period of 10 years.
Central Tanami Project	TSF Cell 1	Latitude: -19.972 Longitude: 129.720	JV - 40%	Closed and Rehabilitated	1993	Yes	Uncertain	12	Unknown	no planned changes - facility is closed	Not available	No	Unknown	Not classified	Unknown	Internal	Unknown	No	Q12.Due to the historic ownership and rehabilitation of the facility NSR holds no records for its design, construction or operation.
	TSF Cell 2	Latitude: -19.968 Longitude: 129.730	JV - 40%	Closed and Rehabilitated	1993	Yes	Uncertain	5	Unknown	no planned changes - facility is closed	Not available	No	Unknown	Not classified	Unknown	Internal	Unknown	No	Q12.Due to the historic ownership and rehabilitation of the facility NSR holds no records for its design, construction or operation. Yes but fully relinquished
	TSF Cell 3	Latitude: -19.971 Longitude: 129.728	JV - 40%	Closed and Rehabilitated	1997	Yes	Uncertain	8	Unknown	no planned changes - facility is closed	Not available	No	Unknown	Not classified	Unknown	Internal	Unknown	No	Q12.Due to the historic ownership and rehabilitation of the facility NSR holds no records for its design, construction or operation. Fully relinquished and no further obs
	Dice	Latitude: -19.956 Longitude: 129.722	JV - 40%	Closed and Rehabilitated	1999	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	Airstrip	Latitude: -19.964 Longitude: 129.718	JV - 40%	Closed and Rehabilitated	unknown	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	Dingo	Latitude: -19.962 Longitude: 129.712"	JV - 40%	Closed and Rehabilitated	unknown	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	North Temby	Latitude: -19.967 Longitude: 129.717"	JV - 40%	Closed and Rehabilitated	unknown	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	South Temby	Latitude: -19.970 Longitude: 129.715	JV - 40%	Closed and Rehabilitated	unknown	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	Central	Latitude: -19.971 Longitude: 129.713	JV - 40%	Closed and Rehabilitated	unknown	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	Reward	Latitude: -19.973 Longitude: 129.709	JV - 40%	Closed and Rehabilitated	unknown	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	Assault	Latitude: -19.975 Longitude: 129.711	JV - 40%	Closed and Rehabilitated	unknown	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	Battery	Latitude: -19.975 Longitude: 129.712	JV - 40%	Closed and Rehabilitated	unknown	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	Bumper	Latitude: -19.981 Longitude: 129.694	JV - 40%	Closed and Rehabilitated	2001	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
	Bouncer	Latitude: -19.984 Longitude: 129.691	JV - 40%	Closed and Rehabilitated	2001	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No	Unknown	Not classified	Unknown	Internal	N/A	No	
Jundee	TSF 1	"Latitude: -26.351 Longitude: 120.618"	Owned and operated	Active	October 1995	Yes	Upstream	18	7,700,000	11,500,000	Not available	Yes	Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	Yes 28-Jun-2019	Yes	
	TSF 2	Latitude: -26.346 Longitude: 120.598	Owned and operated	Active	December 1999	Yes	Upstream	17.4	12,200,000	13,400,000	Not available	Yes	Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	Yes 28-Jun-2019	Yes	
	Fisher in-pit TSF	Latitude: -26.367 Longitude: 120.600	Owned and operated	Active	July 2004	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	Yes	Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	N/A	Yes	
	Nimary TSF1	Latitude: -26.381 Longitude: 120.574	Owned and operated	Closed and Rehabilitated	Dec-95	Yes	Upstream	26.2	8,700,000	8,700,000	Not available	No	Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	No	

Church of England Tailings Dam Management Disclosure (continued)

Site	1. Tailings Facility Name	2. Location (latitude/longitude)	3. Ownership (as of March 2019)	4. Status	5. Date of Initial Operation	6. Is the Dam currently operated or closed as per currently approved design? (Yes/No)	7. Raising Method	8. Current Maximum Height (m)	9. Current tailings storage impoundment volume (m3 as at March 2019)	10. Planned Tailings storage impoundment volume in 5 years time (m3 as planned for January 2024)	11. Most recent independent expert review (date)	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure? (Yes/No)		13. What is your hazard categorisation of this facility, based on the consequence of failure?	14. What guideline to you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified be an independent engineer (even if later certified as stable by the same or a different firm). (Yes/No)	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years? (Yes/No)	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
Kanowna Belle	TSF1 Cell 1	Latitude: -30.593 Longitude: 121.565	Owned and operated	Active	August 1993	Yes	Up-stream	22.5	7,700,000	7,700,000	3-Dec-18	No		Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	Yes	
	TSF1 Cell 2	Latitude: -30.593 Longitude: 121.571	Owned and operated	Active	January 1994	Yes	Up-stream	22.5	7,700,000	7,700,000	3-Dec-18	No		Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	Yes	
	Red Hill In-Pit TSF	Latitude: -30.596 Longitude: 121.612	Owned and operated	Active	July 2008	Yes	In-Pit	ground level	no above ground storage	no above ground storage	3-Dec-18	No		Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	N/A	Yes	
	Calcine TSF	Latitude: -30.600 Longitude: 121.577	Owned and operated	Closed	April 1994	Yes	Uncertain	4	106,350	106,350	3-Dec-18	No		Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	No	
	Waldon in-pit TSF	Latitude: -30.589 Longitude: 121.601	Owned and operated	Closed	January 2017	Yes	In-Pit	ground level	no above ground storage	no above ground storage	Not available	No		Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	N/A	No	Q18 The Kanowna Belle Closure Plan is currently under development to include an updated closure strategy for Waldon in-pit TSF
	TSF2	"Latitude: -30.586 Longitude: 121.268"	Owned and operated	Active	Not operated at March 2019	Yes	Up-stream	6	-	15,700,000	Not available	Yes		Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	Yes 10-Aug-2017	Yes	Q18 The Kanowna Belle Closure Plan is currently under development to include a closure strategy for TSF2
	Historical QED TSF	Latitude: -30.587 Longitude: 121.582	Owned and operated	Closed and Rehabilitated	unknown	Unknown	Uncertain	Unknown	Unknown	no planned changes - facility is closed	Not available	No		Unknown	Not classified	Unknown	Internal	Unknown	No	
Kundana	TSF1	Latitude: -30.706 Longitude: 121.219	Owned and operated	Inactive	December 1988	Yes	Up-stream	18	1,484,000	1,484,000	26-Feb-18	No		Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	Yes	Q6 - tailings is being reclaimed for paste fill
	TSF 2	Latitude: -30.710 Longitude: 121.222	Owned and operated	Inactive	October 1997	Yes	Up-stream	17.5	1,271,000	1,271,000	26-Feb-18	No		Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	Yes	Q6 - tailings is being reclaimed for paste fill
	TSF 3 Cell A	Latitude: -30.706 Longitude: 121.215	Owned and operated	Inactive	April 2002	Yes	Up-stream	9	190,000	190,000	26-Feb-18	No		Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	Yes	Q6 - tailings is being reclaimed for paste fill
	TSF 3 Cell B	"Latitude: -30.709 Longitude: 121.218"	Owned and operated	Inactive	May 2002	Yes	Up-stream	8	400,000	400,000	26-Feb-18	No		Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	Yes	Q6 - tailings is being reclaimed for paste fill
	TSF 3 Cell C	Latitude: -30.713 Longitude: 121.220	Owned and operated	Inactive	November 2002	Yes	Up-stream	11	1,150,000	1,150,000	26-Feb-18	No		Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	No	Yes	Q6 - tailings is being reclaimed for paste fill
Paulsens	TSF	Latitude: -22,576 Longitude: 116.235	Owned and operated	Care and Maintenance	May 2005	Yes	Up-stream	14.85	2,900,000	2,629,200	Not available	Yes		Category 2	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	Yes 2013	Yes	
Pogo	Dry Stack Tailings Facility	RTP Dam - Latitude: 64.451117, Longitude: -144.892750	Owned and operated	Active	2004	Yes	Up-stream	145 More information in Q20.	Approximately 2.1 million cubic meters	Approximately 3.2 million cubic meters	2014	Yes		Class I (Significant)	Title 11 of the Alaska Administrative Code (AAC) 93.157, set by the Alaska Dam Safety Program (ADSP).	No	Internal	Yes May 2011	Yes	Q8. This facility is constructed in a valley at a 3:1 slope and the 145m height refers to the difference between the toe elevation and the top of the facility. No section of the DSTF is 145m in thickness.

Church of England Tailings Dam Management Disclosure (continued)

Site	1. Tailings Facility Name	2. Location (latitude/longitude)	3. Ownership (as of March 2019)	4. Status	5. Date of Initial Operation	6. Is the Dam currently operated or closed as per currently approved design? (Yes/No)	7. Raising Method	8. Current Maximum Height (m)	9. Current tailings storage impoundment volume (m3 as at March 2019)	10. Planned Tailings storage impoundment volume in 5 years time (m3 as planned for January 2024)	11. Most recent independent expert review (date)	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure? (Yes/No)	13. What is your hazard categorisation of this facility, based on the consequence of failure?	14. What guideline to you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified be an independent engineer (even if later certified as stable by the same or a different firm). (Yes/No)	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years? (Yes/No)	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
	Jubilee TSF1	Latitude: -31.042 Longitude: 121.618	Owned and operated	Closed	unknown	Unknown	Uncertain	Unknown	Unknown	no planned changes - facility is closed	Not available	No	Unknown	Not classified	Unknown	Internal	Unknown	No	Q.18 Current regulations do not require a Mine Closure Plan for this facility. Internal regulations do require a closure strategy which is currently a work in progress.
	Jubilee TSF2	Latitude: -31.039 Longitude: 121.623	Owned and operated	Closed	unknown	Unknown	Uncertain	Unknown	Unknown	no planned changes - facility is closed	Not available	No	Unknown	Not classified	Unknown	Internal	Unknown	No	Q.18 Current regulations do not require a Mine Closure Plan for this facility. Internal regulations do require a closure strategy which is currently a work in progress.
	Jubilee 3A & 3B	Latitude: -31.044 Longitude: 121.625	Owned and operated	Active	October 1994	Yes	Upstream	29.5	3,997,000	6,480,000	19-Nov-18	No	Category 1	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	Unknown	Yes	Q.18 Current regulations do not require a Mine Closure Plan for this facility. Internal regulations do require a closure strategy which is currently a work in progress.
South Kalgoorlie Operations	New Celebration TSF1	Latitude: -31.022 Longitude: 121.613	Owned and operated	Closed	1986	Unknown	Upstream & Centreline	18	2,020,000	2,020,000	Mar-2009	No	Category 1	Department of Industry and Resrouces (1999) - Guidelines on the Safe Design and Operating Standards for Tailings Storage [in Western Australia]	Unknown	Internal	Unknown	No	"Q.18 Current regulations do not require a Mine Closure Plan for this facility. Internal regulations do require a closure strategy which is currently a work in progress. This facility has been covered with waste rock"
	New Celebration TSF2	"Latitude: -31.018 Longitude: 121.613"	Owned and operated	Closed	1989	Unknown	Upstream & Centreline	30	9,700,000	9,700,000	Mar-2010	No	Category 2	Department of Industry and Resrouces (1999) - Guidelines on the Safe Design and Operating Standards for Tailings Storage [in Western Australia]	Unknown	Internal	Unknown	No	This facility has been covered with waste rock
	New Celebration 3A & 3B	"Latitude: -31.020 Longitude: 121.618"	Owned and operated	Closed	1997	Unknown	Upstream	15	3,500,000	3,500,000	Mar-2011	No	Category 3	Department of Industry and Resrouces (1999) - Guidelines on the Safe Design and Operating Standards for Tailings Storage [in Western Australia]	Unknown	Internal	Unknown	No	
	Golden Hope North In-pit TSF	Latitude: -31.045 Longitude: 121.614	Owned and operated	Active	September 2003	Yes	In Pit	ground level	no above ground storage	no above ground storage	Oct-2017	No	Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal & External	N/A	Yes	Q.18 Current regulations do not require a Mine Closure Plan for this facility. Internal regulations do require a closure strategy which is currently a work in progress.
	Mt Goddard in-pit TSF	Latitude: -31.157 Longitude: 121.609	Owned and operated	Active	July 2007	Yes	In Pit	ground level	no above ground storage	no above ground storage	Oct-2017	No	Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal & External	N/A	Yes	Q.18 Current regulations do not require a Mine Closure Plan for this facility. Internal regulations do require a closure strategy which is currently a work in progress.
	Samphire in-pit TSF	Latitude: -31.070 Longitude: 121.531	Owned and operated	Active	July 2007	Yes	In Pit	ground level	no above ground storage	no above ground storage	Oct-2017	No	Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal & External	N/A	Yes	
	Bellevue in-pit TSF	Latitude: -31.030 Longitude: 121.642	Owned and operated	Closed	October 2006	Yes	In Pit	ground level	no above ground storage	no above ground storage	Oct-2017	No	Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	N/A	No	
Western Tanami Project	TSF 1	Latitude: -19.891 Longitude: 128.830	Owned and operated	Care and Maintenance	2006	Yes	Upstream	8.5	320,000	320,000	28-Jun-16	No	Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	"Yes December 2012"	Yes	
	TSF 2	Latitude: -19.891 Longitude: 128.834	Owned and operated	Care and Maintenance	2008	Yes	Upstream	5.5	970,000	970,000	Oct-2017	No	Category 3	Department of Mines, Industry Regulation and Safety (2013) Code of Practice - Tailings Storage Facilities in Western Australia	No	Internal	"Yes December 2012"	Yes	