



HASTINGS
Technology Metals Limited



Climate Change Report 2022

ASX | HAS | Australia's Next Rare Earth Producer

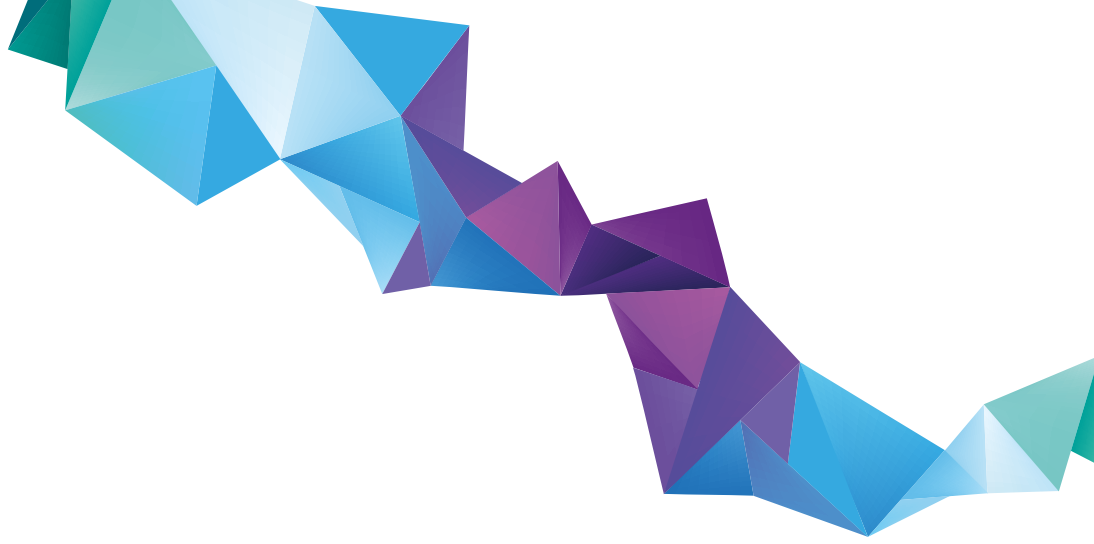


Table of Contents

Message From Our Leadership	page 03
Introduction	page 04
Yangibana Project	page 04
Our Value Chain	page 05
Our Carbon Strategy	page 05
Governance	page 07
Strategy	page 08
Carbon Reduction Transition Plan	page 09
Resilience	page 13
Impacts on Organisational Strategy	page 13
Risk Management	page 15
Physical Risks	page 16
Transition Risks and Opportunities	page 18
Integration with Overall Risk Management	page 20
Metrics and Targets	page 21
Predicted Greenhouse Gas Emissions	page 22
Objectives and Targets	page 23
Going Forward	page 25
Conclusion	page 26

Message from our Leadership

This inaugural Climate Change Report is an important first step to disclosing our climate related risks and opportunities to all our stakeholders. The report is aligned with the Financial Stability Board's (FSB) Taskforce on Climate related Financial Disclosures (TCFD) recommendations based on governance, risk management, strategy, and metrics and targets.

Since the discovery in 2014 of this exceptional rare earth ore body that hosts one of the world's highest concentrations of two critical rare earth namely, neodymium (Nd) and praseodymium (Pr), the Yangibana Rare Earth Project has progressed steadily from exploration into construction and we envisage production to commence by end 2024. Nd and Pr are two critical rare earth elements necessary for the manufacture of permanent magnets used in electric motors for multiple advanced technology applications such as electric vehicles, wind turbines, industrial robotics, consumer electronics, etc. Permanent magnets are 10 times more powerful than the traditional ferrite magnets. It is this enabling technology that presents hope for the future of widespread electrification in transport and wind turbines for renewable energy.

At Yangibana, we will mine and process the ore in our Beneficiation plant and truck the concentrate to Onslow where a Hydrometallurgy plant will be built to further process it into an intermediate product called a mixed rare earth carbonate (MREC). We will produce 15,000 tonnes of MREC a year and ship to our customers for further downstream processing into Nd and Pr oxides, which are then metallised and alloyed before being made into a permanent magnet. The Yangibana Project, in common with other mining activities, does generate a carbon footprint which contributes to global warming. However, Hastings has developed a climate change framework, underpinned by strong governance to provide a pathway towards reducing our carbon footprint. As we foresee that our MREC will end up in electrical motors, we are effectively contributing to the preservation of our planet for future generations thereby supporting the global electrification and decarbonisation plan.

Decarbonisation of our planet is a continuous challenge for all industries. There are technology solutions available today that will assist us in achieving our short-term ambitions. To reach our medium to longer term aspirations for carbon reduction, we understand that technologies will need to mature sufficiently to be cost effective to support this decarbonisation drive. We will continually monitor the commercial feasibility of new technologies and work closely with our major contractors to ensure commercially available renewable energy technologies are implemented for the mine site and process plant. Despite the challenges and low levels of technology maturity in some cases, we will strive to transition the Yangibana Project towards a net zero emissions operation.

This report is a realistic and transparent disclosure of our climate related risks and opportunities and sets out a pathway forward using information and solutions that are in existence today. Our release of this report is also timely given significant climate-related announcements and commitments forthcoming from the governments of Australia and the United States of America. Our Company will evolve and grow and thus we expect future climate-related disclosures will also take account of our growth strategy - growth that will not only be achieved while reducing and avoiding emissions from our operations, but also bring substantive opportunity for Hastings to contribute outputs essential to the solution of the climate challenge. We look forward to disclosing our progress in the future and welcome our stakeholders to be on this journey with us as we progress in our carbon reduction plan.

Charles Lew
Executive
Chairman



“ Our drive to develop the Yangibana Project is to leave a legacy of contributing to the health of our planet for future generations by providing rare earths required to support decarbonisation. ”

Introduction

Our legacy is to contribute to the health of our planet for future generations to come by providing the raw materials required to support decarbonisation.

Anthropogenic climate change is resulting in global warming with the impacts becoming increasingly evident. Supply chain disruptions, business continuity and for many individuals, their homes and personal lives are now being affected by extreme weather because of global warming. Natural ecosystems are also being impacted with the loss of species and large areas of habitat being wiped out.

Collective worldwide efforts are required by governments, businesses, and individuals to halt global warming. Hastings can play an important role in the transition to a low carbon economy.

Specifically, the products produced by Hastings will support decarbonisation efforts. Neodymium (Nd) and Praseodymium (Pr) are used to make permanent magnets, which support decarbonisation technologies, such as electric vehicles and wind turbines. The Yangibana Project has some of the highest concentrations of NdPr in the world, which will be used in renewable energy technologies, reducing the reliance on fossil fuels.

Yangibana Project

Our flagship Yangibana Project has substantial rare earths deposits with high concentrations of neodymium and praseodymium within monazite ore bodies.

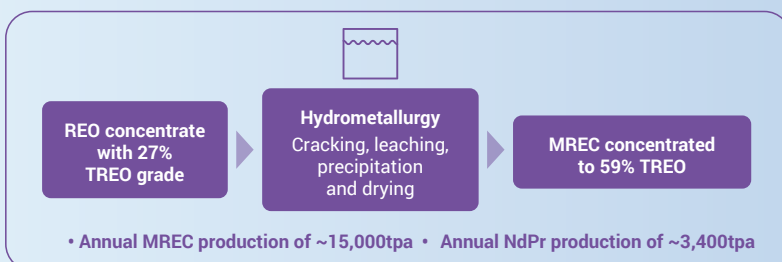
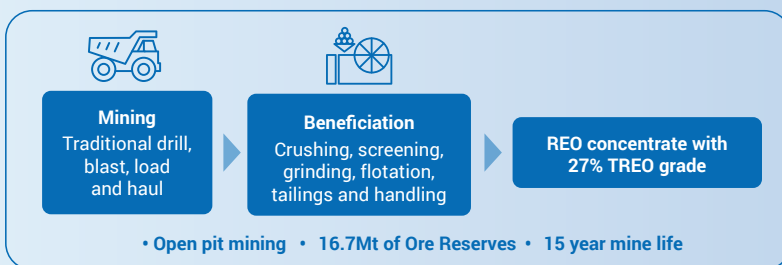
The Yangibana Project occupies 650 square kilometres (km²) and is located approximately 250 kilometres (km) northeast of Carnarvon in Western Australia. The project is currently in the construction phase, with commissioning and operations expected to begin in late 2024 – early 2025.

The Yangibana Project involves developing an operation that will mine the ore containing rare earths at a rate of approximately 1.20 million tonnes per annum (Mtpa). The ore will undergo processing via a beneficiation circuit to produce a high-grade concentrate, which will then be transported ~430km via truck to the Onslow Rare Earths Plant, located at the Ashburton North Strategic Industrial Area, 15km from the town of Onslow.

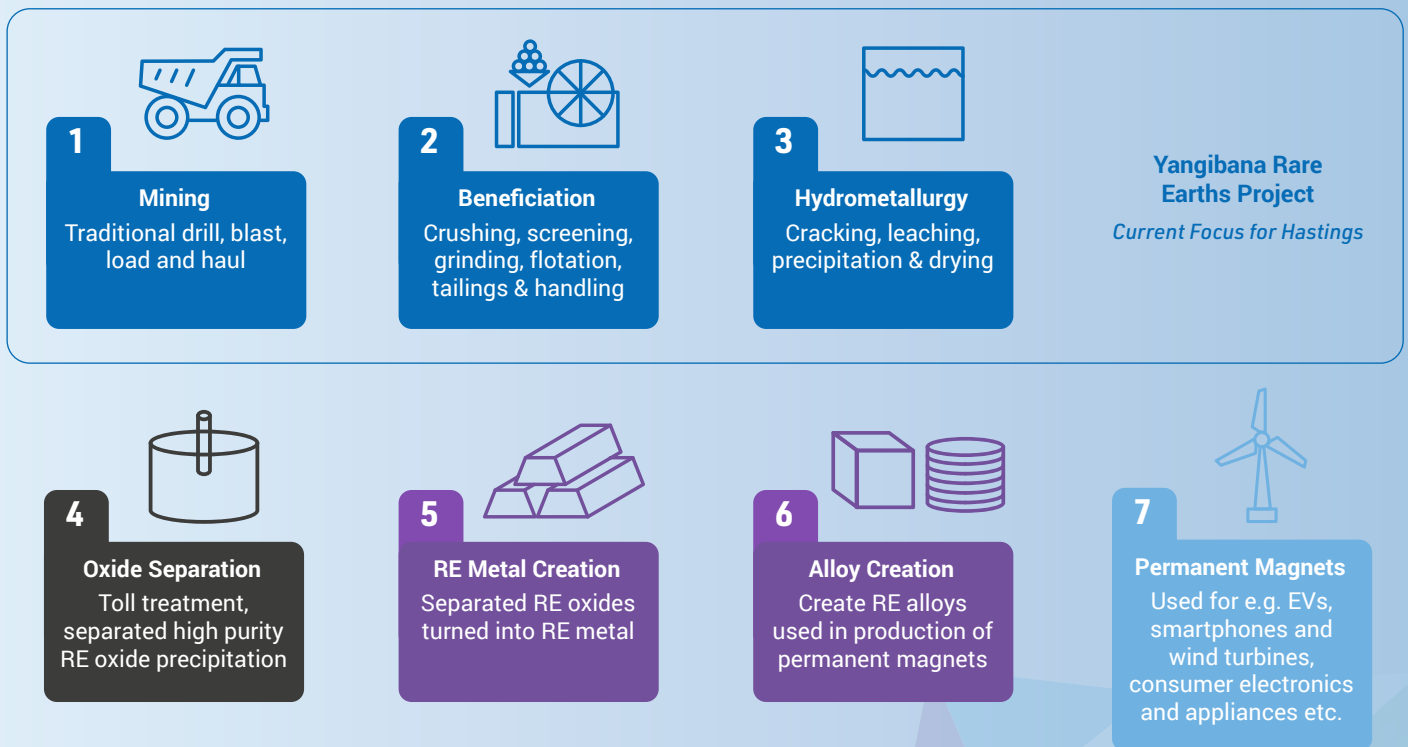
The Onslow Rare Earths Plant consists of a hydrometallurgy circuit that will produce up to 15,000 tonnes per annum (tpa) of mixed rare earths carbonate (MREC) product. The MREC product will then be transported via road to port for export to overseas customers.

Yangibana Project Key Parameters

Key Parameters	
Mining Production (Ore)	1.2Mtpa
Mine Life	15 years
Annual (MREC) production	~15,000 tpa
Annual (TREO) production	~8,500 tpa
Average (NdPr) production	~3,400 tpa
Commissioning Date	2024



Our Value Chain



Our Carbon Strategy

Using the Taskforce on Climate Related Financial Disclosure (TCFD) recommendations as a reference, Hastings has developed a climate change framework. This not only will support our ability to report in a transparent manner, but also informs our business of forward-looking risks and opportunities. It has also helped to support the development of an initial transition plan based on our greenhouse gas emissions estimates for the operations phase of the Yangibana Project. This report demonstrates our progress towards aligning with the TCFD recommendations.



Taskforce on Climate Related Financial Disclosures

The Financial Stability Board (FSB) is an international body that monitors and makes recommendations about the global financial system with the goal to promote and strengthen international financial stability. In this role, the FSB established the Taskforce on Climate related Financial Disclosures (TCFD) in response to the potential for extreme climate related events to destabilise financial markets.

TCFD have developed recommendations on the types of information that companies should disclose to investors, lenders, and insurance underwriters in assessing and pricing risks related to climate change.

TCFD have recommended 11 disclosures under 4 inter-related thematic areas, namely:

Governance –

Disclose the organisation’s governance around climate-related risks and opportunities.

Risk Management –

Disclose how the organisation identifies, assesses, and manages climate-related risks

Strategy –

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.

Metrics and targets –

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

A snapshot of who we are now



Rare earths exploration program	Approvals and permits	Project finance	Start of Yangibana Project construction phase	HAS 2.0	Our team
Annual mineral exploration program resulting in extensions to life of mine	<p>Approvals received for construction of the Yangibana Project including amendments to the layout.</p> <p>Approvals progressed to:</p> <ul style="list-style-type: none"> Relocate the hydrometallurgical plant to Onslow Additional resource areas (Yangibana Expansion 1) 	<p>\$100M from Australian government</p> <p>\$40M from institutional investors</p> <p>Debt and equity finance raising underway</p> <p>Financial Investment Decision (FID) forthcoming</p>	<p>Construction of 80-person fly camp</p> <p>Construction of access road, village, and airstrip underway</p> <p>Water bore field development underway</p> <p>Detailed engineering design underway</p> <p>Long lead equipment ordered</p>	Strategic shareholding in Neo Performance Materials	<p>Our team is in a growth phase and comprised of employees and contractors:</p> <ul style="list-style-type: none"> ~ 50 people in the corporate office ~ 50 people at Yangibana site

Governance

Our Board has oversight of our approach to climate change. This has included approving our Climate Change Policy, our objectives and targets, our Carbon Reduction Transition Plan, and our climate-related financial disclosures via the ESG Committee, which is a subcommittee of the Board. Our senior management team is responsible for implementation of the climate change framework.

While the Board sets the risk appetite for climate related risks, the Technical and Risk Committee, a subcommittee of the Board has oversight of the physical and transitional climate change risks as a component of the overall corporate risk register and ensuring the respective risk treatment plans are implemented to mitigate extreme or high risks. Each risk treatment plan is assigned to a member of the senior management team. Risk treatment plans for extreme or high-risk severity items require the respective senior manager to provide progress reports at each meeting of the Technical Risk Committee.

Our senior management team is also responsible for implementing assigned actions towards achieving our climate change objectives and targets. Progress against achieving these actions is reported at the quarterly ESG Committee meetings.

Our Progress: Governance



Climate Change Policy developed and implemented



ESG Committee Charter incorporates climate change considerations



Climate change framework presented to the Board



Carbon Reduction Transition Plan approved by the Board



Climate Change targets approved by the Board



“Effective governance of climate change risks is core to the way we operate.”

– Neil Hackett
Company Secretary and
Non Executive Director

Strategy

Our strategy is aligned with the Paris Agreement of doing our part to reduce greenhouse gas emissions to limit temperature rises, and takes account of the risks to our business. The Carbon Reduction Transition Plan provides the detail and action plan for the following high-level strategy that integrates with the broader business:

- Set objectives and targets that align with the Paris Agreement and take account of our business strategy;
- Work towards constructing and operating the Yangibana Project to meet the increasing demand for rare earths; and
- Develop a climate change framework aligned with the Task Force on Climate Related Financial Disclosures (TCFD) recommendations.

Short term:

- Work towards obtaining debt and equity finance to enable a Financial Investment Decision and full-scale construction
- Execute construction phase according to project schedule and financing
- Identify operational efficiencies
- Plan for implementation of a solar PV field at Yangibana by obtaining regulatory approvals
- Enter an agreement with Horizon Power for access to its state-of-the-art hybrid power station at Onslow
- Commission and establish baseline operational data during first fiscal year of operations, including GGE intensity metrics
- Ensure our contracts with suppliers during the operations phase align with our objectives and targets
- Measure and disclose our greenhouse gas emissions

Medium term:

- Monitor and investigate the feasibility of new and developing technologies for potential emissions abatement projects
- Develop, construct, and operate commercially available renewable energy opportunities (solar; 10% green hydrogen for the kiln; electric light vehicle)

Medium-long term:

- Monitor emerging renewable energy opportunities (e.g., increase in green hydrogen for the kiln subject to a commercially available source from a third party; electric mining equipment) and implement those that are commercially viable.

Our Progress: Strategy



TCFD aligned climate change framework



Consideration of the overall business strategy in developing a climate change strategy



Consideration of risks and opportunities



Identified an internal carbon price for assessment of abatement options



Consideration of carbon abatement options including assumptions



Development of a short-, medium-, and long-term action plan for implementation of abatement options



Assigned level of certainty for each action



Carbon Reduction Transition Plan

Carbon Reduction Transition Plan

A carbon reduction transition plan has been developed to align with Hastings' business strategy and includes the respective elements of a transition plan as described by the TCFD. The implementation of the transition plan is overseen by the Board via the ESG committee. Senior management have accountability for implementation of the transition plan.

While we have mapped out a prospective pathway for a reduction in greenhouse gas emissions to net zero by 2050, we also note that many of the abatement options have a low or medium level of certainty that they can be implemented. Abatement options for 63%, 14.8%, and 17.2% of our total greenhouse gas emissions have a low, medium, and high level of certainty, that they can be implemented, respectively. Those abatement options that have a low level of certainty include the use of hydrogen or other renewable gas to operate the kiln and flash drier, implementation of methane capture technologies, and electric mining equipment (e.g., haul trucks, loaders). The implementation of a solar field and battery has a medium level of certainty. All scope 1 emission reduction targets are based on abatement options with a low or medium level of certainty, whereas our scope 2 emission reduction targets have a high level of certainty due to the established infrastructure of the Onslow Power Station, and our alignment with the Horizon Power emission reduction targets. Only those actions that have a high level of certainty have been captured in our financial budgets.

The transition plan is a risk and opportunity mitigation measure and identifies the relative contribution of different abatement options to reduce our total predicted greenhouse gas emissions. In setting our targets, we heavily rely on the:

1. Development of abatement options becoming commercially available within the medium (by 2030) and long term (by 2050) timeframes;
2. Learnings from early adopters of new technologies/abatement options; and
3. Feasibility of implementation of the respective abatement options.

The transition plan includes short-, medium-, and long-term greenhouse gas emission reduction targets and the actions required to meet those targets within set timeframes. However, it should be noted that many abatement options identified in this plan are yet to be commercially available and thus the level of certainty that we can meet these targets over the medium and long term is currently low (Table 4). We remain optimistic that the development of new renewable energy technologies is rapidly advancing. The transition plan is a dynamic document and will be updated with the expectation that the respective abatement options will become commercially proven and available in the future to enable us to reach our medium-long term targets.



“ The transition plan is a risk and opportunity mitigation measure and identifies the relative contribution of different abatement options to reduce our total predicted greenhouse gas emissions. ”

Table 4 Greenhouse gas emissions from key sources at Yangibana Project and Onslow Process Plant during the operations phase, potential abatement options and level of certainty associated with the ability to implement the abatement option.

Source	Scope	%	Emissions (t CO ₂ -e/yr)	Abatement options	Level of certainty
Yangibana					
Stationary combustion of LNG for electricity generation	1	18.4	15,743	Solar PV	Medium
Stationary combustion of LNG for a flash drier	1	3.2	2,708	Blend with hydrogen	Low
Stationary combustion (diesel) for large mining equipment	1	19.9	16,995	Electric	Low
Blasting – explosive combustion	1	0.6	532	–	–
Transport combustion of diesel in light vehicles	1	0.7	598	Electric	Medium
Onslow					
Stationary combustion of piped natural gas (kiln)	1	33.0	28,213	Blend with hydrogen initially; renewable gas	Low
Groundwater extraction (methane release)	1	7.0	5,943	Methane capture	Low
Purchased electricity consumption	2	17.1	14,642	Hybrid power with solar	High
Transport combustion of diesel in light vehicles	1	0.1	68	Electric	Medium
		100	85,442		

“ We are reviewing emerging technologies to identify opportunities to decarbonise our operations into the future whilst developing the Yangibana Project. ”

– Andrew Reid
Chief Operating Officer

Case Study

Revised infrastructure layout of the Yangibana Project

During 2020, as the world was adjusting to Covid-19, we decided to revise the layout of our infrastructure at Yangibana to improve operational efficiencies. Land tenure and amendments to permits were obtained throughout 2021 and 2022. The revisions to the infrastructure layout included:

- The village was relocated approximately 9km to the north-northeast of its current location. This reduced the travel distance to and from the mining and processing operations areas by 7km thus reducing scope 1 greenhouse gas emissions (GGE). The shorter distance also helps to promote a 'walk-to-work' program and a healthier and happier workforce by reducing travel time to and from the workplace.
- A shorter access road to the southwest was proposed which reduces transport distance by 32.5km (and reduces scope 3 GGE). This represents a significant reduction in operating expenditure, reduces the size of the development envelope, reduces the disturbance footprint of the access road, and reduces areas exposed to potential indirect impacts such as dust.
- The beneficiation process plant location was moved approximately 750m to the east to reduce the distance to transport ore from the mining operations to the process plant. This represents a small change but is a significant reduction in operating expenditure and a reduction in scope 1 GGE.



“ This reduced the travel distance to and from the mining and processing operations areas by 7km thus reducing scope 1 greenhouse gas emissions. ”

Case Study

Relocating the hydrometallurgical process plant to Onslow

During August 2021, Hastings announced its decision to decouple the hydrometallurgical process plant and the beneficiation plant and relocate the hydrometallurgical plant to the Ashburton North Strategic Industrial Area (ANSIA), 15km from the coastal town of Onslow. The following benefits associated with this decision:

- Reduces the requirement to construct a 114km long gas pipeline to the Yangibana Project (i.e., natural gas is supplied within ANSIA and thus capital expenditure on infrastructure for the supply of natural gas is no longer required)
- ANSIA offers access to hypersaline water from the largest artesian aquifer in Western Australia. This reduces our reliance on fresh ground water in a region considered to be at risk of water stress from climate change.
- ANSIA offers access to the Horizon Power station, which is a hybrid power station (gas, diesel, solar and battery energy supply). Horizon Power intends to increase the use of renewable energy in the future by drawing on solar energy generated from the town of Onslow.
- While beneficiation concentrate will be transported by truck from Yangibana to Onslow, and tailings will be transported from Onslow to Yangibana, this is offset by a reduction of 80% in the volume of consumables, products and chemicals transported to the Yangibana mine site (reduction in scope 3 GGE).

The approvals and permits continue to be obtained for the relocation of the hydrometallurgical process plant to ANSIA.



This reduces our reliance on fresh ground water in a region considered to be at risk of water stress from climate change.

Resilience

Climate change related transition risks have a direct impact on the viability and profitability of Hastings. While we are in the process of developing a greenfield project, the cost of adopting renewable energy technologies is prohibitive to the viability of the Project in the short term. However, in the medium to long term, there are opportunities associated with adopting renewable energy technologies and thus timing of implementation will enable Hastings to gain benefits from the opportunities that they present.

The introduction of a carbon price will influence our operating margins. However, the Company is not considered to be a large emitter and thus the implementation of the Carbon Reduction Transition Plan and respective risk treatment plans identified in the risk assessment process will provide resilience to carbon price increases and may experience medium-long term returns on investment depending on the scenario and the carbon abatement option implemented.

We are in an era where innovation and technological advancements of renewable energy sources and measures to increase efficiency in mining will be very rapid. Keeping abreast of new technologies in renewable energy, costs of renewable energy technologies and lessons learned from early adopters will inform the timing to implement new renewable energy technologies and innovations. A proactive monitoring program to continually assess new and evolving technological advancements and opportunities for carbon abatement options will be implemented.

Impacts on Organisational Strategy

Hastings' adoption of renewable energy sources for its operations will mitigate risk and create opportunities. For example, societal pressures and policy pressures such as a global carbon price or government incentives to transition to renewable energy sources present opportunities for green finance and an increase in demand for Hastings' product. In addition, where the risk of high capital expenditure occurs by adopting renewable energy sources in the short term, there is also the opportunity of a return on investment over the medium to long term. This also offsets the risk of an increase in the cost of fossil fuels.

Scenarios, such as a below 2°C delayed scenario and a net zero by 2050 scenario, that have a faster transition to renewable energy sources include the technical risk associated with the early adoption of new renewable energy innovations. Based on an internal carbon price corridor of US\$40- 80/t CO₂-e, the maximum cost to Hastings will be ~US\$6.8M/yr.

Case Study

New resource areas found near the process plant

Mineral exploration drilling programs occur at Yangibana on an annual basis. The process plant is currently situated in between the Bald Hill deposit and the Frasers deposit.

Mineral exploration drilling programs occur at Yangibana on an annual basis. The process plant is currently situated in between the Bald Hill deposit and the Frasers deposit.

The drilling program targeted the 8km long Bald Hill – Simon’s Find – Fraser’s trend which is near the process plant and vital for the high-grade feed required upon project start-up. The development of this deposit reduces scope 1 emissions associated with transporting ore from the Auer, Yangibana North and West, and Yangibana deposits that are much further away from the process plant during the early years of mining. Infill drilling of the Bald Hill – Simon’s Find – Fraser’s trend over the last year has continued to show favourable results.



Case Study

Introduction of an ore sorter

As reported in our FY22 Sustainability Report, we have investigated an improvement action to implement an ore sorter during the first years of operations. The ore sorter separates waste material from the ore after it has been crushed and prior to it being fed into the beneficiation process.

Ore sorters have been found to be efficient at sorting barren waste from mineralised ore at Yangibana using X-ray transmissions (XRT) and sensors to classify rocks on a moving belt. Rocks that are classified as waste are diverted into a waste stream using compressed air. Rocks that are classified as ore remain as a stream to report “to the grinding mill and further beneficiation processing.

The forecast positive material impacts from the introduction of an ore sorter include:

- Water intensity from bore drawdown is reduced by 0.17 GL/a (10.6% reduction in water use).
- Power intensity of at least 62,278 MWh will be offset.
- Processing consumables are reduced by 29,980 m³ of liquid reagents (19% less liquid reagents) and 23,077 tonnes of solid reagents (19.4% less solid reagents) over the life of mine, and subsequently a reduction of 514 truck deliveries.
- The volume of beneficiation tailings produced is reduced by 23.2% from a total of 1.2 million tonnes per annum.



Risk Management

Risk management is an integral component of the governance structure within our business. The Technical and Risk Committee (TRC) oversees risk management and reports to the Board, whereas senior management takes ownership of the mitigation of risks.

Climate-related risk events have the potential to impact all aspects of the business and can result in legal, reputational, economic, social, health and safety and/or environmental consequences. Climate-related risks are grouped into physical risks and transitional risks.

Risk assessment traditionally takes account of the potential negative impacts on the business. However, we recognise there are also opportunities associated with climate-related risk events – and have thus considered the opportunities associated with climate change as well.

Our risk assessments consistently follow the International Organisation for Standardisation (ISO) 31000 risk management approach. The risk criteria adopted for this Project includes the risk matrix, measure of likelihood and measure of consequence descriptors.

Due to the inter-relationship between the rate of global warming and the rate at which a collective global effort to transition to renewable energy is likely to occur and the associated uncertainties, we have followed the TCFD recommendation to assess risks under different climate change scenarios – and then apply the (ISO) 31000 risk management approach.

We also took account of short-(2022-2026), medium-(-2030), and long-term (-2050) timeframes.

Our Progress: Risk Management



Physical risk assessment by climate change consultant



Physical risks identified and risk workshop held



Transitional risks identified and risk workshop held



Risks incorporated into the corporate risk register and each risk was assigned a senior manager to implement a risk treatment plan



Technical and Risk Committee (TRC) and Board briefed on physical and transition risks

“ Physical and transitional climate-related risks, form an important component of our corporate risk register, which is overseen by the Technical and Risk Committee, a subcommittee of the Board.

– Bruce McFadzean
Chair, Technical and Risk Committee
Non Executive Director

Physical Risks

Climate change scenarios used for the assessment of physical risks (acute or chronic) included:

- 1. Baseline:** Our current weather conditions include consideration of extreme weather events. Our risk assessment also includes consideration of risks associated with extreme weather events in the short term.
- 2. RCP 4.5:** Global warming expected to increase by 1.8°C between 2081-2100 relative to 1986-2005 resulting in an increase in the sea level by 0.47m and assuming a medium effort to curb greenhouse gas emissions.
- 3. RCP 8.5:** Global warming expected to increase by 3.7°C between 2081-2100 relative to 1986-2005 resulting in an increase in the sea level by 0.63m and assuming a low effort to curb emissions.

An independent third party was engaged to help us identify potential hazards under each scenario. A risk workshop was then held within our business to assess the impact of these hazards on our operations. [Table 1](#) summarises the outcomes of the risk assessment, progress towards mitigating those risks and our mitigation/adaptation strategy going forward.

Table 1: Physical climate related risks

#	Climate scenario		Risk under base-line^	Chronic (C) or Acute (A)#	Risks	Timeframe*			Consequence type** (priority)	FY22 actions	Mitigation/adaptation strategy
	RCP 4.5	RCP 8.5				S	M	L			
1	X	X	N	C	Reduced water availability in shallow aquifer systems (utilised by groundwater dependent ecosystems (GDEs) and pastoralists) at the Yangibana Project		X	X	Financial (2)	30% contingency of water supply at Yangibana by progressing the decoupling of the process plant and moving the hydromet plant to Onslow Introduction of ore sorter to improve operational efficiencies including reduction in water required in the beneficiation process 80% water recycled in beneficiation process	<ol style="list-style-type: none"> 1. Develop a detailed water source modelling based on climate change predictions 2. Develop a water security contingency strategy for the Yangibana Project 3. Develop a water stewardship strategy to ensure the long-term sustainability of water resources including water efficiency measures, water reuse initiatives and pastoral requirements. 4. Incorporate consideration of long-term pastoral water demand and supply in the Mine Closure Plan. 5. Identify alternate water source
2	X	X	Y	A	More severe flood events (>0.6m riverine inundation) at the Yangibana Project	X	X	X	Financial (2)	All linear infrastructure is designed for 1:100 average recurrence interval (ARI) 72-hour rainfall event	<ol style="list-style-type: none"> 1. Review design of linear infrastructure and drainage controls based on climate change predictions, 2. Monitor early warning systems for flood events and consideration of early evacuation of non-essential personnel, 3. Increase storage capacity (medium and long term), 4. Medium- and long-term plans to upgrade road crossings across Fraser Creek between camp and process plant

#Acute risks are event driven e.g., droughts, floods, extreme precipitation, wildfires. Chronic risks are longer term shifts in climate patterns e.g., rising temperatures, reduced water availability

* Timeframes:

S – Short timeframe (2022-2026)

M – Medium timeframe (2030)

L – Long timeframe (2050)

^Risks under baseline (yes(Y)/no (N)) takes account of whether these risks are considered in the immediate timeframe due to severe weather events under current baseline conditions.

**Risk priority ranging from 1 = lowest priority to 5 = highest priority.

#	Climate scenario		Risk under baseline^	Chronic (C) or Acute (A)#	Risks	Timeframe*			Consequence type** (priority)	FY22 actions	Mitigation/adaptation strategy
	RCP 4.5	RCP 8.5				S	M	L			
3	X	X	Y	A	Increase in flood events impacting road condition and disruptions to truck movements along the Yangibana-Onslow transport corridor	X	X	X	Financial (4)	Flood considerations included in H&S emergency response plan Road User Agreement ratified by all parties and including consideration of flood events, road maintenance and upgrades	<ol style="list-style-type: none"> 1. Conduct a road engineering study to further understand flood risks (medium-long term) and areas impacted along the Yangibana-Onslow supply route. 2. Selection of appropriate flood return period for design of various components of the road, specifically road crossings at drainage points. (Literature indicates minimum flood return period of 100 years should be adopted). 3. Wet weather management plan for logistics and supply. 4. Take account of more frequent flood events and associated costs of road repairs, maintenance, and upgrades during development of the Road User Agreement. 5. Ensure that floods are included in the project's H&S protocols and emergency response plans. 6. Increase storage capacity for reagents and concentrate over medium to long term
4	X	X	Y	C	Extreme heat impacts workforce health and safety	X	X	X	H&S (2)	Heat stress considerations included in the Health and Hygiene Management Plan and associated procedures	<ol style="list-style-type: none"> 1. Worker's resting areas and on-site offices, worker's quarters will be constructed with insulation to keep the indoor temperature lower. 2. Outdoor facilities should be shaded to reduce high temperatures. 3. A heat stress management plan should be prepared as part of standard operations and safety procedures. 4. Workers shall be trained to identify symptoms of heat stress and provide first aid. 5. The project shall make appropriate considerations for design and maintenance of cooling systems. 6. Health and hygiene management plans for Yangibana and Onslow will include relevant info around heat stress management. 7. Mobile equipment shall include enclosed cabs with air conditioning.
5	X	X	Y	C	Extreme heat impacts operational efficiency of equipment	X	X	X	Financial (1)		<ol style="list-style-type: none"> 1. Medium (5-15yrs) and long term (>15yrs) plans to improve a higher design threshold for temperature while designing various structures and purchase of equipment 2. Consider shading over fixed plant equipment
6		X	Y	A	Increased wind speeds due to more frequent category 3-5 cyclone events at Onslow	X		X	Financial (2)	Detailed design of buildings and process plant for category 5 cyclone events at Onslow	<ol style="list-style-type: none"> 1. Evaluation of resilience of buildings and plant against predicted wind speeds and determination of additional controls to be review by 2030. 2. Monitoring of BoM weather information in advance of event to aid in early preparations for cyclone events
7	X	X	Y	A	Impact of wildfires (1 every 2-5 years)	X	X	X	H&S (1)	Bushfire Management Plans developed for Onslow and Yangibana sites	<ol style="list-style-type: none"> 1. Investigate local government response and MoU with other local stakeholders for assistance 2. Emergency management plan specific to Onslow Plant with emergency response capability (internal or external) considerations.
8	X	X	Y	A	Potential impacts from lightning strikes	X	X	X	H&S (4)	Lightning Procedure developed as a component of the Health and Safety Management System	<ol style="list-style-type: none"> 1. Exploration management plans to consider response to increased lightning activity 2. Provision of lightning arresters on comms towers, explosive magazine stores, weather station. 3. Include lightning as one of the hazards in the general emergency preparedness and response plan 4. Fire Management Plan (Onslow) to include fire caused by lightning events 5. Health and safety procedures and awareness in the event of lightning activity at each site

#Acute risks are event driven e.g., droughts, floods, extreme precipitation, wildfires. Chronic risks are longer term shifts in climate patterns e.g., rising temperatures, reduced water availability

* Timeframes:

S – Short timeframe (2022-2026)

M – Medium timeframe (2030)

L – Long timeframe (2050)

*Risks under baseline (yes(Y)/no (N)) takes account of whether these risks are considered in the immediate timeframe due to severe weather events under current baseline conditions.

**Risk priority ranging from 1 = lowest priority to 5 = highest priority.

Transition Risks And Opportunities

Transitioning to a low carbon economy can present our business with risks and opportunities due to changes to government policy and legislation, technological advances, market pressures and societal pressures. In assessing our potential transitional risks, four climate scenarios were considered:

- **Baseline (2022 policies; CT):** A baseline scenario consistent with global climate change policies in place at the end of 2021.
- **Below 2°C immediate (2-I):** An immediate policy action toward limiting average global warming to below 2°C.
- **Below 2°C delayed (2-D):** A delayed policy action toward limiting average global warming to below 2°C.
- **Net-zero 2050 (1.5°C; N-0):** A more ambitious immediate policy action scenario to limit average global warming to 1.5°C that includes current net-zero commitments by some countries.

The adoption of each scenario is defined by a set of assumptions that are based on timing, policy, technology, market pressures and societal pressures.

Table 2 summarises the assumptions that define each of the four climate change transition scenarios. Taking account of the characteristics of each scenario, we conducted an internal risk assessment workshop to identify potential transition risks over the short-, medium-, and long-term.

Table 3 summarises the risks and opportunities associated with a transition to a low carbon economy. However, the rate at which the world transitions to a low carbon economy is difficult to predict due to the complexities of macroeconomics and geopolitical agendas, and thus different scenarios can influence the probability and magnitude of risks and opportunities.

In the medium to long term, there are significant opportunities for an increased demand for our NdPr product. As governments on a worldwide scale commit to more ambitious climate change targets, the transition to renewable energy technologies such as electric vehicles and wind turbines will drive the demand for NdPr. This will result in increased profit margins for our shareholders, increased access to capital and an opportunity to grow the business.

A reduction in the combustion of greenhouse gases form the focus of governments, markets, and society in general. Various pressures can be placed on Hastings to reduce our greenhouse gas emissions and while our emissions are not significant in comparison to other industries, there is still an expectation that we will do our part to reduce them. On the other hand, there is a perceived risk of impact on the viability of the business resulting from the transition to low greenhouse gas emissions.

An independent third party was engaged to help us identify potential hazards under each scenario. A risk workshop was then held within our business to assess the impact of these hazards on our operations. **Table 1** summarises the outcomes of the risk assessment, progress towards mitigating those risks and our mitigation/adaptation strategy going forward.

Our intent is to do our part as we want to leave a legacy of making the world a better place for future generations and thus a Carbon Reduction Transition Plan (CRTP) has been developed that aligns with our business strategy. Regardless, under two of the climate change scenarios (2-I and N-0), there is a risk of increased capital expenditure in the short term due to a requirement to implement renewable energy source options earlier than planned.

The CRTP provides a staged approach to our transition to renewable energy sources. However, some technologies are yet to be developed at a commercial scale. Our medium-term target (by 2030) is aspirational and includes a lag and lead indicator that aligns with meeting the Paris agreement of no more than 1.5°C temperature increase (lead indicator) and a target that aligns with a well under 2°C temperature increase (lag indicator), as determined by the Science based Targets initiative (SbTi). We also have a long-term aspirational target to achieve net zero by 2050. The CRTP endeavours to balance the risk associated with early adoption of new technologies with the ambitions to achieve our carbon reduction targets.

In addition, risks of the introduction of a global carbon price associated with increasing government policy and regulation may result in increased fossil fuel prices. This further increases the technological risks associated with substitution of fossil fuel sources with carbon abatement options, especially for natural gas substitutes in the medium to long term. As large oil and gas companies transition to renewable energy commodities, the availability of fossil fuel sources is also expected to decrease. Our action plan to progress with substituting our use of fossil fuels with renewable energy sources mitigates this risk once alternate technologies are identified and commercially available.

Table 2 Assumptions for timing, policy, technology, market pressures and societal pressures under each transition scenario

Scenario	Timing	Policy	Technology	Market pressures	Societal pressures
Current trajectory (RCP 8.5) (CT)	The world follows a path consistent with climate policies in place at the end of 2021, implying a continued rise in emissions and an increase in average global temperature in the range of 3.7°C by 2100	Australian policies not strong enough to invoke change No Australian carbon tax Limited government incentives to adopt renewable technologies	The pace of technological change is slow The availability of renewable energy technologies is limited with higher capital expenditure than fossil fuel options Development of new renewable energy options for commercial use is slow	International pressures from governments, investors, customers International tariffs Moderate uptake of EVs and associated infrastructure	Low pressure from Australian society Variable societal pressure internationally
Below 2°C (RCP 2.6) immediate (2-I)	Linear timeline: Collective global action is taken to reduce emissions toward a target of below 2°C by 2100	Australian policies start to invoke change Potential for an Australian carbon tax Limited government incentives to adopt renewable technologies	Moderate pace of technological change The availability of renewable energy technologies is limited and costly until 2030 but uptake is immediate with investment in readily available commercial technologies such as wind and solar Development of new renewable energy options for commercial use is moderate	International pressures from governments, investors, customers Fast uptake of EVs and associated infrastructure	Strong pressure from society in Australia and internationally
Below 2°C (RCP 2.6) delayed (2-D)	Non-linear timeline: After a decade-15yrs of following 2021 policy frameworks, collective global action to align with a below 2°C target begins in 2030 A steeper transition is needed to make up for the additional timeframe of a continued rise in emissions	Australian policies do not invoke change initially due to the delay but then switch very quickly to invoke change Delayed but then potential for high carbon price via a tax or other Delayed but strong government incentives to adopt renewable energy technologies	Moderate and then high pace of technological change during transition The availability of renewable energy technologies is limited and costly until the transition to more aggressive government policies. Supply may not keep up with demand over a short period during the transition Development of new renewable energy options for commercial use is slow until the transition but then occurs quickly	International pressures from governments, investors, customers Moderate – fast uptake of EVs and associated infrastructure	Strong pressure from society in Australia and internationally
Net zero by 2050 (limit global warming to 1.5°C (RCP 1.9) as per Paris Agreement) (N-0)	Starting in 2022, collective global action is taken to reduce emissions toward a 1.5°C target	Australian policies invoke change Potential for Australian carbon tax or similar Strong government incentives to adopt renewable energy technologies	Fast pace of technological change The availability of new renewable energy technologies is moderate and scalable (more cost-effective)	International pressures from governments, investors, customers Fast uptake of EVs and associated infrastructure	Strong pressure from society in Australia and internationally

Integration With Overall Risk Management

Both physical and transition risks are incorporated in our corporate risk register. A senior manager for each risk is assigned to further implement the respective risk treatment plans and report their progress for high or extreme risks to the Technical and Risk Committee.

A summary of opportunities, risks and risk mitigation measures are shown in Table 3.

Table 3: Summary of climate change transition opportunities, risks and risk mitigation measures under different scenarios and taking account of short (S), medium (M) and long-term (L) timeframes

#	Risk/opportunity	Type*	Scenario^	Timeframe			Impacts	Consequence type** (priority)	Mitigation
				S	M	L			
Risks									
1	Cost of fossil fuels increase due to global carbon price	P	2-I, 2-D, N-0		X	X	Operating expenses would increase	Financial (2)	1. Assess transition fuel opportunities 2. Develop strict equipment maintenance program with mining contractor (requirement in contract documentation) 3. Monitoring technology advances 4. Implement Carbon Reduction Transition Plan
2	Higher capital expenditure to transition to renewable energy sources due to immediate change in government policy	P T	2-I, N-0	X			Capital expenditure would increase High capex risks the potential to obtain finance and investor confidence in the Project viability	Financial (5)	1. Monitoring government sentiment to climate change
3	Fast adoption of new renewable energy innovations presents technical risks	T	2-D, N-0		X	X	Costs associated with schedule delays or shutdown of key equipment Costs associated with not meeting the terms of offtake agreements	Financial (5)	1. Monitoring of new technologies and lessons learned by early adopters of the technology 2. Develop strict equipment maintenance program with mining contractor (requirement in contract documentation)
4	Decreasing availability of fossil fuels as the market transitions away from the production of fossil fuels	M	All	X	X	X	Costs associated with shutdown of key equipment (especially acid bake kiln which relies on natural gas) during operations	Financial (2)	1. Secure long term gas supply 2. Monitoring for emerging alternative fuel sources
5	Societal pressure to report and reduce scope 3 emissions	P	All				Increase in operating expenditure because of transition costs pushed back onto Hastings from the respective scope 3 emitter	Financial (2)	1. Monitor emerging technologies and assess feasibility
Opportunities									
1	Opportunity for return on investment and lower operating expenditure by adopting renewable energy technologies	T	All		X	X	Lower operating expenditure	Financial (2)	1. Implementation of Carbon Reduction Transition Plan
2	Opportunity for provision of increased RE production to enable transition to e-mobility – level of opportunity dependent on scenario and supply/demand	M	All		X	X	Increase in profits for our shareholders	Financial (5)	1. Annual exploration program for Rare Earth Elements at the Yangibana Project tenements
3	Opportunity from societal pressure resulting in increased demand for rare earths	S	2-I, 2-D, N-0		X	X	Increased access to capital	Financial (5)	1. Annual exploration program for Rare Earth Elements at the Yangibana Project tenements
4	Opportunity to access green finance	S	All		X	X	Opportunity to grow the business and increase value to our shareholders/ stakeholders	Financial (5)	1. Build our sustainability credentials

* Risk type: Policy (P), Technology (T), Market pressure (M), Societal pressure (S)

^ Scenario:

CT - Current climate change trajectory

2-I - Below 2°C immediate

2-D - Below 2°C delayed

N-0: Net-zero 2050 (1.5°C)

**Risk priority ranging from 1 = lowest priority to 5 = highest priority.

Metrics and Targets

While our product will be a key enabler of renewable energy technologies, we also recognise that we will need to plan for the transition of our mining and processing activities from fossil fuels to lower or nil emission sources, where possible.

Our greenhouse gas emissions have to-date been negligible due to small scale exploration and development activities that we have undertaken. This fiscal year, initial construction activities for the Yangibana Project have commenced, with a gradual increase in emissions anticipated as construction activities increase in preparation for full scale plant construction in FY23.

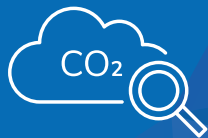
FY22 Emissions:

Scope 1 > 3.835kt CO2-e

Scope 2 > 0.019kt CO2-e

Total > 3.854kt CO2-e

Our Progress: Metrics and Targets



We have conducted a greenhouse gas emissions assessment to estimate our emissions during operations

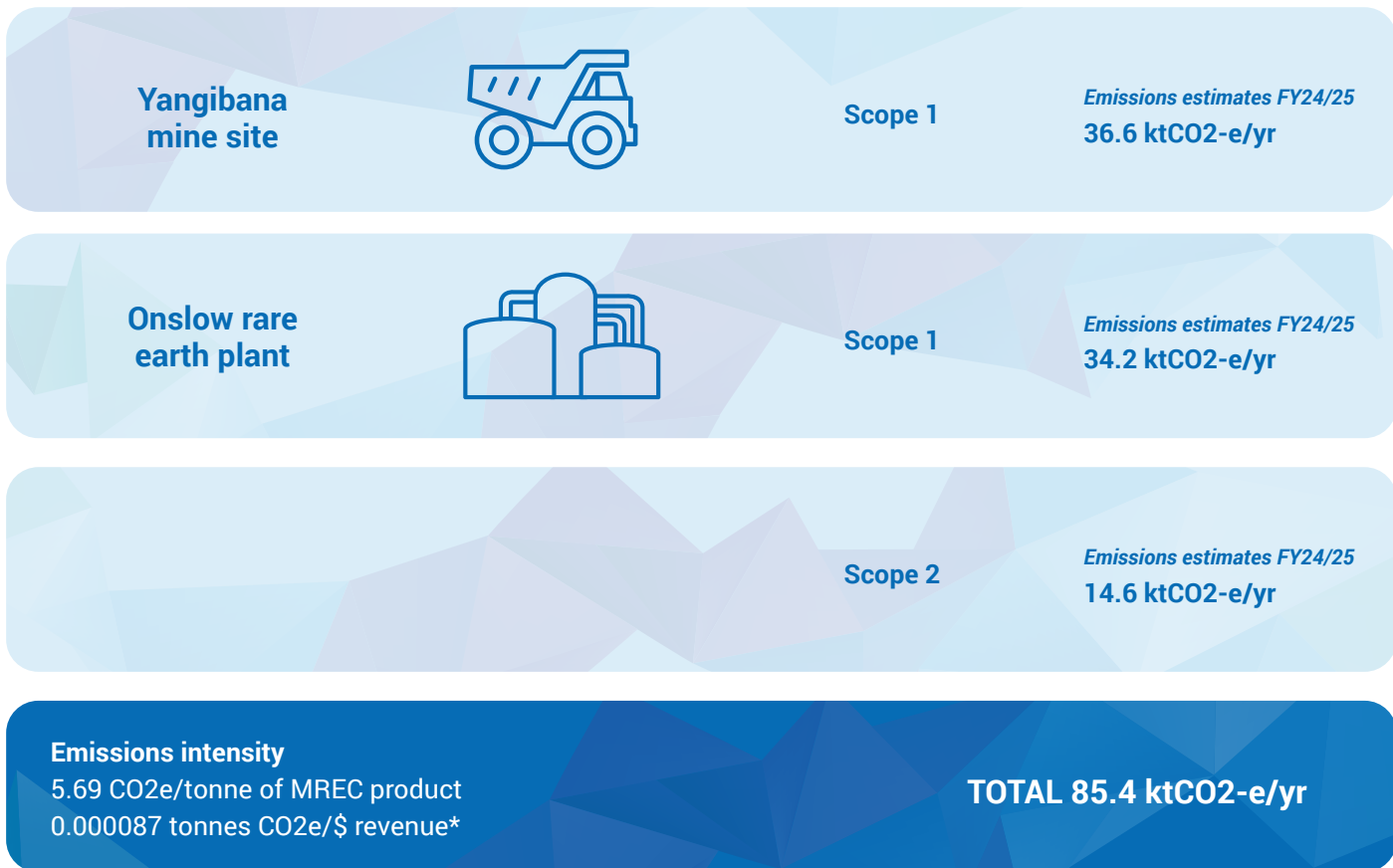


We have measured our scope 1 and 2 emissions during the first year of construction

While our product will be a key enabler of renewable energy technologies, we also recognise that we will need to plan for the transition of our mining and processing activities from fossil fuels to lower or nil emission sources, where possible.

Predicted Greenhouse Gas Emissions

Following commissioning activities, it is expected that the operations phase of the Yangibana Project will begin in FY24. As a result of our transition from construction to operations, greenhouse gas emissions are predicted to increase to (in absolute terms) 85.4 kilo tonnes of carbon dioxide equivalent emissions per year (ktCO₂-e/year; scope 1 and 2).



*Assuming \$64.95/kg of MREC (Corporate Presentation dated 4 July 2022) and production of 15,000 tonnes of MREC/year

Specific performance related metrics are still being developed within the organisation. Our first step is to measure our scope 1 and 2 emissions on an annual basis in accordance with the National Greenhouse and Energy Reporting Act 2007 and specifically the NGER (Measurement) Determination 2008. As indicated, once the baseline metrics are established, ongoing intensity factors will also be defined and tracked to monitor performance over time.

Objectives and Targets

Hastings is keen to do our part to meet State and Commonwealth government targets, and international commitments as per the Paris Agreement. In FY22, we have set targets for the transition to renewable energy sources.

Our objective is to contribute to a lower carbon economy by:

- 1) Producing the rare earth resources to support decarbonisation of the energy mix; and
- 2) Reduce the greenhouse gas emissions footprint of our mining and processing activities.

To track our progress in achieving our objectives, we have identified short-term targets that are responsible and realistic, and aspirational medium- and long-term targets that currently have a low certainty of implementation based on best available information. Short term targets were based on:

- A focus on realising the opportunity to construct and operate the Yangibana Project;
- Progressing the approvals for the relocation of the hydrometallurgical plant to Onslow;
- Ensuring no additional pressure on our capital expenditure (CAPEX) for the Yangibana Project; and
- Forward planning for a transition to renewable energy sources.

For medium term targets Hastings has used the Science-based Target Setting Tool (version 1.2.1) to model targets in line with SBTi approved criteria and methods but have excluded scope 3 emissions. This tool applies the Absolute Contraction Approach to calculate targets (for a target year) that meet the Paris Agreement criteria to keep temperature between 1.5°C and well below 2°C. At the start of the operations phase, we will measure and validate our greenhouse gas emissions profile, and may adjust this medium-term target in accordance with the SBTi approved criteria.

The long-term target aligns with the Western Australian government, Australian government and international (Paris Agreement) target of net zero emissions by 2050.

Our medium- and long-term targets are aspirational due to the low level of certainty that the abatement options can be implemented (where they are not yet commercially available), and our reliance on the research and development of other organisations.

We will report progress against those objectives and targets in a transparent manner.

Science-Based Target Initiative (SBTi)

SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the Worldwide Fund for Nature (WWF). SBTi provides a five-step process for organisations to make a commitment, develop and set targets for validation by SBTi, communicate and disclose their progress against the targets.

Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement. We have used the target setting tool to guide us when setting our medium-term carbon reduction targets based on our emissions estimates.

We will join the SBTi and formalise our target commitments upon commencement of operations.

Short term targets (2022-2026)

14% reduction in scope 2 greenhouse gas emissions by 2024.

Obtain environmental approvals for solar field installation at Yangibana by 2025.

Establish a baseline of emissions during the first year of operations.

Medium term targets (2030; aspirational)

22% – 38% reduction in scope 1 baseline greenhouse gas emissions by 2030.

50% reduction in scope 2 greenhouse gas emissions by 2030.

Long term target (2050; aspirational)

Achieve net zero scope 1 and 2 greenhouse gas emissions by 2050.



Actions implemented in FY22:

- Development of a Carbon Reduction Transition Plan
- Setting objectives and targets to reduce our greenhouse gas emissions
- Securing an agreement with Horizon Power for power supply from the state-of-the-art power station at Onslow (renewable energy from solar PV system in-part)
- Location identified for solar PV field at Yangibana secured
- Operational efficiencies identified by adding an ore sorter prior to beneficiation processing
- A solar PV system has been incorporated in the Approvals planning for the Yangibana Expansion 1 Project

Next steps:

- Obtain all regulatory approvals for the Yangibana solar field
- Validation of actual greenhouse gas emissions over first year of production
- Recalibration of 2030 targets (if required)
- Third party assurance of emissions and targets upon commencement of operations



Going Forward

Governance	Strategy	Risk Management	Metrics And Targets
<p>Develop and implement reporting scorecard for Board presentations including:</p> <ul style="list-style-type: none"> • carbon emissions reporting, • progress against objectives and targets • progress on the implementation of risk treatment plans • identification of new risks and opportunities • progress on implementation of the Carbon Reduction Transition Plan. 	<p>Implementation of short-term action plan.</p> <p>Reporting to ESG Committee of progress.</p> <p>Develop a proactive monitoring program of new, emerging technological advancements in the renewable energy sector.</p>	<p>Implementation of risk treatment plans for extreme and high risks to be monitored by Technical Risk Committee (on-going).</p>	<p>Re-assess our greenhouse gas emissions estimate using a change management approach when there are changes to the Yangibana Project, our business strategy or ownership structure.</p> <p>Measure and validate our greenhouse gas emissions (GGE are reflective of the start of the construction phase), to establish a baseline of scope 1 and scope 2 emissions during the first 12 months of operation. From this baseline, we will set short, medium (2030) and long term (2050) targets using the SBTi target setting tool.</p> <p>Third party assurance of greenhouse gas emissions data.</p>



“ The evolving landscape of climate-related disclosures provides an opportunity for Hastings to demonstrate how it has embedded the TCFD climate change framework within our decision making processes. ”

– Matthew Allen
Chief Financial Officer


Conclusion

Underpinning the vision and economic sustainability of Hastings is the opportunity created by constructing and operating the Yangibana Project, enabling a significant contribution (6-8% of global demand) of NdPr to support the world's transition to green technologies (i.e., e-mobility and wind turbines).

The speed at which the world transitions to renewable energy power sources presents an enormous opportunity for Hastings to further increase production to meet the demand for rare earths. This demand will be dependent on the climate transition scenario. Demand for rare earths will be greatest for the Net zero by 2050 scenario.

Our climate change framework provides Hastings with a solid foundation upon which opportunities can be identified and risks can be mitigated. Currently, we are one of only a few mining development companies that are building our climate strategies around TCFD recommendations. We believe that this will place Hastings in a position to provide climate-related financial disclosures and confidence to our stakeholders about our capability to monitor and manage any identified risks.

Our product presents an enormous opportunity to be part of collective efforts to combat the impacts of climate change in a sustainable manner. In doing so, we recognise that we must take account of climate-related physical risks during our operations and must plan to transition to a low carbon economy in all that we do. Risk management is a universal tool that enables Hastings to prepare and plan so that the impacts of climate change are mitigated. We look forward to disclosure of climate-related financial information in the years to follow.



“ Our climate change framework provides Hastings with a solid foundation upon which opportunities can be identified and risks can be mitigated. ”

Independent Review of the Conformity of Hastings
Technology Metals Limited' Climate Change Report
for its Yangibana Rare Earths Project with respect to
Implementing the Recommendations of the Task Force
on Climate-related Financial Disclosures

August 2022

This report is prepared for the Board of Hastings Technology Metals Limited

Professor Raymond Wills and Howard Buckley
Future Smart Strategies
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Independent Review aligning Hastings commitments with TCFD (2021) recommendations.

1.0 Introduction

Future Smart Strategies has been asked to provide an independent assessment of the extent to which Hastings Technology Metals Limited (Hastings) meets the recommendations of the G20 sponsored Task Force on Climate-Related Financial Disclosure (2021) (TCFD).

The basis for our assessment has been Hastings' Yangibana Rare Earths Project Climate Change Report FY22 (CCR22) and various other corporate reports and materials. Where appropriate, these have been documented in our main assessment matrix.

Hastings is in the construction phase on its Yangibana project. As such, Hastings does not yet reflect a typical operating mining sector company, specifically in relation to both the size and focus of its revenue and capital. Our assessment reflects this understanding.

2.0 Executive Summary

In our opinion Hastings broadly complies with the recommendations of the TCFD (2021) which requires financial disclosure of risks and opportunities.

It is expected that Hastings will update processes, metrics, targets, controls, and reports as it commissions productive mining.

We also note that while TCFD (2021) compliance is currently voluntary in Australia, it has been mandated by other G20 nations, so it remains highly relevant to Hastings in relation to investor relations, customer relations, and the foreseeable likely mandating by the Australian Government.

It is also assumed that as Hastings transitions from construction to operation, Hastings will expand its assessment of the material financial risks and opportunities presented by the many business externalities impacted by climate change.

3.0 Assessment

Future Smart Strategies has completed a documentation review to determine whether or not the information in the CCR22 is reasonable and accurate and can be validated by Hastings systems and processes. No interviews with personnel were undertaken other than discussions with the GM, Sustainability. This is not an assurance or limited assurance assessment.

Documentation that has been reviewed includes:

- Climate Change Policy Rev 01 (Doc no. HA-0-0000-HE-EN-POL-00002)
- Carbon Reduction Transition Plan Rev D (Doc no. YB-0-0000-HE-SU-STD-00001)
- ESG Committee Charter Rev 01 (Doc no. YB-0-0000-HE-SU-STD-00001)
- Climate Change Transition Risk Management Plan Rev 00 (Doc no. YB-0-0000-HE-RS-PLN-00001)
- Risk Management Plan Rev 00 (Doc no. YB-0-0000-PM-RS-PLN-00001)
- Project Risk Register V12 (YGB-90-000-PRM-RSK-REG-0001)
- Physical risk assessment report by ERM (2021; Project no. 0589057)
- FY22 GHG Emissions Assessment by Greenbase (2022)

4.0 Comparison Matrix

Hastings Technology Metals Limited disclosure commitments in respect to its risks and opportunities arising from climate change and their alignment to the respective TCFD recommendations has been assessed in the following table.

TCFD Recommendation	Hastings Climate Change Report	Supporting Documentation	Meets the Criteria
Governance			
Describe the Board's oversight of climate-related risks and opportunities	Governance Section	ESG Committee Charter Climate Change Policy	Complete Note – focus is currently on climate change/carbon reduction. Material financial risks and opportunities from climate change will need to be highlighted as they emerge
Describe management's role in assessing and managing climate-related risks and opportunities.	Governance Section	ESG Committee Charter Carbon Reduction Transition Plan	Complete
Strategy			
Describe the climate-related risks and opportunities the organization has identified over the short-, medium-, and long-term.	Strategy & Risk Management Sections	Carbon Reduction Transition Plan Climate Change Transition Risk Management Plan Project Risk Register	Complete Needs to develop more financial perspective in-line with revenue growth and capital investment.
Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Strategy section	Carbon reduction transition plan Project Risk Register	Complete (note as above)
Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Strategy section	Climate Change Transition Risk Management Plan	Complete (harmonise CCR22 for RCP 1.9, 2.6, and 4.5)

TCFD Recommendation	Hastings Climate Change Report	Supporting Documentation	Meets the Criteria
Risk Management			
Describe the organization's processes for identifying and assessing climate-related risks.	Risk Management Section	Climate Change Transition Risk Management Plan Physical risk assessment report (ERM 2021) Risk Management Plan	Complete
Describe the organization's processes for managing climate-related risks.	Risk Management Section	Project Risk Register ESG Committee Charter Risk Management Plan	Complete
Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Risk Management Section	Project Risk Register ESG Committee Charter Risk Management Plan	Complete
Metrics and Targets			
Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Metrics and Targets Section	Carbon reduction transition plan	Partial – some metrics (energy, emissions complete). Additional relevant metrics need to be adopted to monitor climate related impacts, opportunities, trends, and targets
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Metrics and Targets Section	FY22 GHG Assessment (Greenbase 2022)	Complete
Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Metrics and Targets Section	Carbon reduction transition plan	Partial – some metrics (energy, emissions) complete. Additional relevant metrics need to be adopted to monitor climate related impacts, opportunities, trends, and targets

5.0 Summary

Hastings has developed a TCFD-aligned climate change framework that reflects the current stage in development of the Yangibana Project. As the company evolves, grows, starts to generate revenue, and operates the Yangibana Project, so too will its systems and processes, and disclosure of the financial aspects of climate-related risks and opportunities begin to evolve.

Given the company's current stage of development, this report adequately and appropriately discloses the level of information that external stakeholders would expect of Hastings. It is realistic, transparent and provides a suitable level of detail. We commend Hastings on this important first step on its decarbonisation journey whilst noting that further disclosure processes will be necessary as Hastings transitions beyond mine construction.

In our review of the documentation supporting the Climate Change Report, on-going work will be required as the company evolves. With a clear direction emerging on climate-related actions from governments, cleantech advancements demanding supply of new raw materials, and a desire to be a part of the global solution, Hastings is well setup to use its climate change framework to provide a competitive advantage and ensure the long-term economic sustainability of the company, including to:

- build Hastings' supply chain advantages as a preferred supplier in net-zero world;
- prepare Hastings for carbon pricing from the European Union, and likely carbon-related restrictions arising in the EU free trade agreement;
- demonstrate that Hastings' output will contribute critical minerals and be relevant to sovereign reserves strategies (national security, and defence alliances); and
- establish credentials through the CCR22 that will support opportunities to seek grants and other funding for new low-carbon solutions for Yangibana.

Next steps should be:

- implementation and management of targets, with specific focus on financial risks and opportunities where material;
- explicit inclusion of Climate Change impacts within the Terms of Reference of the Technical and Risk Committee; and
- development of a business resource and process map to assist in the identification and impact assessment of emerging issues/opportunities.

Signed



Professor Ray Wills
Managing Director
Future Smart Strategies



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