C0. Introduction

C0.1

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

Northam Platinum Holdings Limited is an independent, empowered, and integrated producer of Platinum Group Metals (PGMs), benefitting from the full mine to market value stream. Northam is an independent, fully empowered, mid-tier, integrated Platinum Group Metal (PGM) producer with three wholly owned primary operating assets: the Zondereinde (ZE), Eland (EP) and Booysendal (BD) Mines in the South African Bushveld Complex. Northam has its own metallurgical operations, including a smelter and base metals recovery plant on the Zondereinde lease area, and recycling assets which are located in the United States with a 50 000 oz recycling potential. Our aspirational growth target is to produce 1 million oz 4E per annum.

Zondereinde mine is an established, conventional, long-life (over 30 years) operation with annual production of 350 000 oz 4E of equivalent refined metals from its own operations. It is located on the northern portion of the western limb of the Bushveld Complex near the town of Thabazimbi. The average depth of its mining is 1750 m, making Zondereinde the deepest platinum mine in the world. Hydro-powered equipment is used for stoping and development, instead of electric powered equipment. Surface infrastructure includes two concentrators, a tailings storage facility, a smelter and a base metals recovery plant. The geological structure and depth make mining particularly challenging and has an impact on the operation's mining methods and cost profile. Northam has therefore adopted innovative and alternative mining technologies, with implications for its greenhouse gas (GHG) emissions profile.

The Booysendal mining operation, comprised of the North and South mines, is located near Mashishing on the eastern limb of the Bushveld Complex with an increasing production profile aimed at of 500 000 oz 4E of concentrate PGM at steady state. The layout of the Booysendal mining infrastructure has been constructed to be energy-efficient and cost-effective with regard to material handling. The orebody at Booysendal lends itself to brownfield expansion opportunities that are being established on the property with a life of mine of 25 years.

The group acquired the Eland mine in 2018. This is located in the south-western portion of the Bushveld Complex, close to the town of Brits in the North West Province. At the time of purchase the mine was fully equipped and partially developed, but mining had been suspended. The group brought the mine back into production and it is currently being developed to a steady state of 180 000 4E ounces per annum, which will be reached in 2028. A new enhancement to the Eland operation has been the acquisition and integration of the neighbouring Maroelabult mine during 2022. This has added significant operational flexibility to Eland.

The incorporation of Northam Holdings was followed, during 2021, by the acquisition, of a significant investment in RBPlat. This provides the group with an additional revenue stream in a buoyant PGM price environment. In July 2023, Northam's stake in RBPlat was sold.

Northam's total attributable Mineral Resources as at 30 June 2022, expressed as in situ metal content, comprises 225.47 Moz 4E, an increase of 21.82 Moz 4E on the previous year. The total metal content in Mineral Reserves as at 30 June 2022, comprises 34.50 Moz 4E, an increase of 4.99 Moz 4E on the previous year.

The information disclosed pertains to FY2022 (01/07/2021–30/06/2022) and includes Zondereinde, Booysendal and Eland Mines, of which Northam has financial and

operational control.

C0.2

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

Reporting year

Start date
July 1 2021

End date
June 30 2022

Indicate if you are providing emissions data for past reporting years
No

Select the number of past reporting years you will be providing Scope 1 emissions data for
<Not Applicable>

Select the number of past reporting years you will be providing Scope 2 emissions data for
<Not Applicable>

Select the number of past reporting years you will be providing Scope 3 emissions data for
<Not Applicable>

C0.3

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

C0.4

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

C0.5

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

C-MM0.7

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

Row 1

Mining
Platinum group metals

Processing metals
Copper
Gold
Platinum group metals
Nickel
Other non-ferrous metals, please specify (Cobalt and Chrome)

C0.8

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

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	ZAE000298253
Yes, a Ticker symbol	NPH

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	The board-level Health, Safety and Environmental (HSE) committee is tasked by Northam Board to oversee and approve climate change-related policies and monitor performance and compliance. The Chief Executive Officer (CEO) is responsible for ensuring proper formulation and execution of strategy and policies and is accountable to the Board through the HSE committee. In 2022, the HSE committee reviewed and approved the group's energy policy and strategy, including the alignment of initiatives in progress to this strategy and monitored the progress of power-saving initiatives and energy use reduction plans, including the development of the 10MW Solar Power farm at Zondereinde and 1MW solar arrays at Booysendal and Eland, as well as the investigation into larger scale wind and solar solutions. Additionally, the committee was kept informed of management's preparation for the implementation of the Task Force on Climate-related Financial Disclosures (TFCD) policy, as recommended by the G20's Financial Stability Board. Due the potential impact, climate change and specifically the electric vehicle market has on the PGM industry, this aspect is also closely monitored by the Board and Risk and Audit sub-committee

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding annual budgets Overseeing major capital expenditures Overseeing acquisitions, mergers, and divestitures Reviewing and guiding strategy Overseeing and guiding the development of a transition plan Monitoring the implementation of a transition plan Overseeing the setting of corporate targets Monitoring progress towards corporate targets Reviewing and guiding the risk management process	<Not Applicable>	The Board Health, Safety, and Environmental (HSE) committee evaluates and oversees Northam's environmental performance, plans, norms, conformity, and developments, including climate-related challenges. The HSE committee meets formally once a quarter. The HSE committee gets written accounts, presentations, and oral testimonies on climate-related performance from management and outside specialists on a quarterly basis. In the event of non-/poor performance, the HSE committee is obligated to make suggestions to correct the issue. The Board gets reports summarizing corporate performance from the chairman of the HSE committee for approval or disapproval. Performance is measured against predetermined/agreed-upon goals and objectives with management.

C1.1d

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	Northam utilized a competency assessment to examine the competencies of our board members, with reference to Environmental, Social and Governance issues, where the environmental component includes climate change and water subject matter. Based on the survey, we confirmed that four of our board members have a level of experience with sustainability, and especially climate change and water. This allowed Northam to ensure that the competence of our Board members in terms of Sustainability and climate-change related issues is met.	<Not Applicable>	<Not Applicable>

C1.2

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

Position or committee
Chief Executive Officer (CEO)

Climate-related responsibilities of this position
Managing annual budgets for climate mitigation activities
Managing climate-related acquisitions, mergers, and divestitures
Integrating climate-related issues into the strategy
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line
More frequently than quarterly

Please explain
The CEO presides over the company's executive committee meetings and accounts directly to the Board. The executive team's climate change obligations include creating policies, identifying risks and opportunities, managing risk, setting goals and targets, and allocating and implementing budgets. This is presented to the Board of Directors for approval. The CEO will review and provide guidance to ensure alignment with the overall company strategy and TCFD recommendations. Progress and performance will be reported by the CEO to the Board in terms of risks and opportunities including new developments. The CEO receives performance updates monthly following each mine operation review meeting conducted by the appropriate executive, as well as on a case-by-case basis as determined by the circumstances at hand. Our executive in charge of new business development oversees risks and opportunities and has been entrusted with putting Northam's renewable energy roadmap into action, whilst our mining executives, along with their operational committees, are primarily in charge of energy efficiency initiatives. The CEO also plays an active role in the Minerals Council of South Africa as well as the International PGM Association where he is a Senior Board member, two organizations spearheading various climate-related initiatives.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	All managerial staff from middle management level and above are incentivised through the Northam share incentive plan. Applicable staff are eligible for a monetary reward based on performance factors including operational expenditure. For example, purchased energy is considered a major cost component, driving down energy consumption, which as a result drives down emissions, is incentivized.

C1.3a

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

Entitled to incentive
Chief Executive Officer (CEO)

Type of incentive
Monetary reward

Incentive(s)
Bonus - % of salary
Shares

Performance indicator(s)
Energy efficiency improvement

Incentive plan(s) this incentive is linked to
Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)
All managerial staff from middle management level and above are incentivised through the Northam share incentive plan. Applicable staff are eligible for a monetary reward based on performance factors including operational expenditure. For example, purchased energy is considered a major cost component, driving down energy consumption, which as a result drives down emissions, is incentivized.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
By incentivizing energy efficiency, Northam motivates its management to reduce energy usage and, as a result, greenhouse gas emissions.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	1	Northam defines 'short-term' as within a period of 12 months.
Medium-term	1	5	Northam defines 'medium-term' as a period between 1 and 5 years.
Long-term	5	30	Northam defines 'long-term' as a period longer than 5 years.

C2.1b

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

When identifying or assessing climate-related risks, Northam defines a substantive financial or strategic impact as an impact which has the potential to divert the operations and the business from our existing business plan and operational schedules, resulting in a disruption in production at our operations. A substantive climate-related risk may be as a result of unavailability of energy or water, unaffordable energy cost and a change in regulations. Such risks are identified through our risk assessment process. These risk assessments are typically done on an annual basis or when new activities or acquisitions are made. Risks are rated from minor to catastrophic. A risk is considered substantive if there is a financial impact of 1% of our revenue and/or asset base. Northam's revenue for FY22 was R34 billion and the asset value was R22 billion. As such, a substantive impact would be R340 million (revenue-based) and/or R220 million (asset-value based).

C2.2

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

Value chain stage(s) covered
Direct operations

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
Annually

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Our risk strategy follows a top down approach and is a key input into our strategy and planning processes. Northam's enterprise risk management framework guides management's decision making process in pursuit of sustainable delivery on the group's business and operational objectives. Climate-related risks and opportunities are identified, assessed and managed as part of our overall risk management process on a corporate level. This ensures that associated risks and opportunities are timeously identified, appropriately evaluated and where necessary, effective response strategies formulated over the short-, medium- and long-term time horizon. Additionally, during 2023, site-specific workshops, facilitated by external climate change experts, were held with the operations to enhance understanding and further embed physical climate risks into their risk processes.

At corporate level, management is accountable to the Audit and Risk Committee for designing, implementing and monitoring the process of risk management, including risk and opportunity identification, and integrating it into the company's activities. The climate change aspects considered in the risk process include weather-related, regulatory, and reputational risks and opportunities. It is mandatory for this process to take place at least once a year. The risk management process is continuous with key risks reported to each of the board sub committees, as well as the board of directors.

At site/facility level, Northam's integrated risk management framework is used through the ISO 14001 Environmental Management System to assess current and potential risks and opportunities, and to identify appropriate mitigation measures. Climate-related risks are considered alongside operational risks. Northam's risk appetite and our approach to risk management may be defined as the amount of risk deemed appropriate in the pursuit of value, recognising that risk appetite will change over time. We consider this within the context of consequence severity, any relevant internal or external factors influencing risk, and status of management actions to mitigate the risk. If a risk exceeds appetite it will threaten the achievement of objectives and may require a change to strategy.

Risks having residual exposures with greater than significant impact and possible likelihoods, are deemed extreme or high risks (i.e. a substantive risk). These risks receive particular focus from the group's executives, the board and its committees. The board is regularly informed on the status of these risks, as well as those risks that are approaching the limit of the groups risk appetite and tolerance. Where deemed necessary, consideration is given for management actions to be accelerated or enhanced to ensure the risks remain within its threshold levels.

Remaining risks, deemed moderate or low are monitored on an ongoing basis by management and the executive committee. Northam has robust internal controls in place in order to identify and manage significant risks, including those risks pertaining to climate change. We have developed an integrated risk management framework whereby significant risks facing the group, including risks from operations and ancillary processes, are identified and subsequently ranked using risk metrics.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Northam is exposed to current climate-related regulations which may pose a risk to the business. For example, the national GHG reporting regulations came into effective as of April 2017 and require companies conducting activities that exceed thresholds listed in GHG regulations to report on such activities. The promulgation of the Declaration of GHGs as Priority Air Pollutants and National Pollution Plans Regulations requires disclosure of GHG emissions to the Department of the Environment (DEA). On a yearly basis, Northam (Zondereinde, Eland and Booysendal mines) submits GHG emissions report to the Department of Forestry, Fisheries and Environment (DFFE), as required by the South African GHG Reporting Regulations. These disclosures are used as the basis for the calculation of the new carbon tax that came into effect on 1 June 2019, with the promulgation of the Carbon Tax Act, No 15 of 2019. Due to the impacts of such climate-related regulation on Northam, we monitor and assess the associated risks as part of our overall risk management process.
Emerging regulation	Relevant, always included	Northam monitors emerging climate-related regulations which may pose a risk to our business. For example, the Draft Climate Change Bill was tabled in Parliament in 2021 for consideration. This Bill proposes the introduction of carbon budgets as a mechanism to achieve proposed sectoral emissions targets. Companies would need to comply with these budgets or else be subject to fines. In addition, phase 2 of the South African Carbon Tax Act No 15 of 2019 will increase operating costs for Northam's mines. In the current phase, the financial impact of this tax is estimated at less than 0.03% of Northam's overall energy costs, at prevailing figures. However, in 2026 (phase 2), it is anticipated that the carbon tax will become substantially more stringent through increases in the tax rate and/or decreases in the allowances and/or the inclusion of a carbon-related tax on grid electricity consumption. Although not significant currently, Northam's exposure to the impact of carbon tax will become significant from 2026 if the phase 2 tax rate increases substantially. Therefore, emerging climate-related legislation could pose a risk for Northam in future if we are not able to reduce our GHG emissions in line with the stipulated carbon budget requirements (in the case of the Climate Change Bill) or at a minimum level to reduce the tax implications of phase 2 of the carbon tax. These risks are monitored and assessed as part of our overall risk management process.
Technology	Relevant, always included	Northam considers remaining abreast of global technological developments as relevant to our identified business opportunities and risks. We have identified the integration of new technologies at our operations as one of the inputs which could contribute to achieving our strategic objectives and creating value. On the other hand, we are aware that Northam faces a risk falling behind competitors in the sustainability transition if we do not suitably adopt relevant low-carbon technologies when they become available. Furthermore, new low-carbon technologies such as fuel cells will influence the market demand for PGMs. Since PGMs are used in fuel cells, demand for PGMs for fuel cells may increase, but demand for PGMs for internal combustion vehicles may decrease, posing a risk to Northam. Therefore, climate-related technology risks are monitored and assessed as part of our overall risk management process.
Legal	Relevant, always included	The number and scope of climate-related legal requirements governing Northam's operations are increasing. This poses the risk of increased compliance costs, potential exposed to litigation, and negative reputation in the case of potential non-compliance. We endeavour to manage such risks through continuous engagement with regulatory bodies. Climate-related legal risks are monitored and assessed as part of our overall risk management process.
Market	Relevant, always included	The demand for our products may be affected by the global transition to a low carbon economy. The transition to a low carbon economy implies significant and wide-ranging changes to the supply and consumption of energy. One of the most important sectors to be affected is transportation. The low carbon transition means a global uptake of electric vehicles (EVs), and hydrogen fuel cell vehicles (FCEVs) and a decline in the global use of internal combustion engine (ICE) vehicles, such that greenhouse gas emissions from transport are reduced over time. With regard to the platinum market, understanding these trends in detail is critical. ICEs are a source of platinum demand via catalytic converters. FCEVs are a source of platinum demand via fuel cells, and there is an associated growth area in electrolysers to produce hydrogen from water, using electricity. Platinum is commonly used in electrolyser membranes. While demand for FCEVs and electrolysers is expected to increase globally under a low carbon scenario, this is from a presently very low base. Meanwhile, demand for platinum from catalytic converters is subject to decline, due to zero-emission vehicles on the roads replacing ICEs under a low carbon scenario. The risk for Northam is related to how much platinum demand could be lost as a result of fewer ICEs (and therefore catalytic converters) on the roads, and how much platinum demand could grow as a result of more hydrogen vehicles coming into use. Climate-related market risks are monitored and assessed as part of our overall risk management process.
Reputation	Relevant, always included	Climate change has been identified as a potential source of reputational risk tied to changing customer or community perceptions of an organisation's contribution to or detraction from the transition to a lower-carbon economy. Companies are being pressured to minimize the climate-related impacts of their operations. Stakeholder and client expectations are constantly evolving and generally becoming more onerous. Northam could face reputational risks with investors and other stakeholders if our climate-related performance and policy commitments fall short of expectations or industry benchmarks. Climate-related reputational risks are monitored and assessed as part of our overall risk management process.
Acute physical	Relevant, always included	Flooding events have the potential to disrupt operations and damage site infrastructure, particularly tailings storage facilities (TSFs). Flooding damage to TSFs can cause uncontrolled discharge of tailings into the surrounding environment, causing severe environmental damage and knock-on effects to Northam such as loss of social license to operate. Acute physical risks therefore are relevant to Northam and are included in our risk assessment process. As such, during 2023, site-specific workshops, facilitated by external climate change experts, were held with the operations to enhance understanding and further embed physical climate risks into their risk processes.
Chronic physical	Relevant, always included	Changes in precipitation patterns may pose risks for Northam. Water supply is critical for the performance of our operations, especially for Zondereinde, which uses the potential energy of water under the pressure of gravity to drive most of the mining equipment (i.e. hydro mining). Therefore, chronic physical risks are relevant to Northam and are included in our risk assessment process. As such, during 2023, site-specific workshops, facilitated by external climate change experts, were held with the operations to enhance understanding and further embed physical climate risks into their risk processes.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The South African Carbon Tax Act No 15 of 2019 will increase operating costs for Northam. In Phase 1 of the national carbon tax, the financial impact is estimated at less than 0.03% of Northam's overall energy costs. From 2026, the national carbon tax is planned to enter Phase 2, where carbon tax may be imposed on electricity. Although not significant currently, Northam's exposure to the impact of carbon tax is anticipated to become significant from 2026.
The National GHG Reporting Regulations of 2017 require companies to annually report on GHG emissions to the Department of Forestry, Fisheries and Environment (DFFE), if the company's installed thermal generation capacity exceeds the threshold of 10 MW (thermal). Northam has submitted its GHG emissions report to the DFFE in

FY2022. The security of electrical power is a risk to Northam's business and to the safety of our underground personnel at Zondereinde. Generators were installed at Zondereinde when it was constructed, however these measures are no longer adequate to mitigate the sudden rapidly growing risk of increasing levels of load curtailment by Eskom and increased risk of a partial or total shutdown of the electrical Eskom grid, which may be imminent and is beyond Northam's control. A total or partial grid failure grid failure will take at least two weeks to restore. Northam may be required to increase the use of our diesel generators, increasing our carbon tax liability.
The Draft Climate Change Bill was tabled in Parliament in 2021 for consideration. This Bill proposes the introduction of carbon budgets as a mechanism to achieve proposed sectoral emissions targets. It is understood that entities that operate a single facility with annual stationary Scope 1 emissions greater than 30 000 tCO2e will be subject to mandatory carbon budgeting. Companies would need to comply with these budgets or else be subject to fines. Companies that exceed their carbon budgets will pay a penalty rate for GHG emissions in excess of the budget, proposed at a rate of R640/tCO2e, with no allowances or discounts. The DFFE has adopted a phased approach to the implementation of carbon budgets. There is uncertainty regarding the imposition of mandatory carbon budgets, however it is likely that the system will be implemented in 2026. This emerging legislation could pose a risk for Northam in future if we are not able to maintain or reduce our GHG emissions in line with the stipulated carbon budget requirements.

Time horizon
Medium-term

Likelihood
Virtually certain

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
218754027

Potential financial impact figure – maximum (currency)
592481962

Explanation of financial impact figure
Carbon tax is anticipated to pose a risk to Northam from 2026, given that Phase 2 is expected to be implemented. The anticipated headline carbon tax rate for 2026 is R308 per tonne CO2 equivalent. At present, Northam receives a 70% allowance, and it is expected that in 2026, these allowances will still be applicable. As such, the actual tax rate is expected to be R92/tCO2e. This results in an anticipated direct carbon tax liability for Northam of R3 161 906, assuming our scope 1 emissions remain consistent, and an indirect carbon tax paid in the carbon fuel levy of R2 991 718. However, the material carbon tax impact is expected to come from potential carbon tax on electricity. It is predicted that the introduction of carbon tax phase 2 in 2026 will result Northam paying an indirect carbon tax passed through by Eskom, resulting in approximately R212 600 404 of carbon tax, assuming our electricity consumption is consistent with FY22. In 2030 the headline carbon tax rate is projected to increase to R462/tCO2e, and the basic tax-free allowance and assumed Eskom allowances are expected to decrease to 10%. As such, our carbon tax liability (both direct and indirect) is projected to increase significantly. In 2030, our direct carbon tax liability is estimated to be R9 485 718; our indirect carbon tax pain in a carbon fuel levy is estimated to be R8 975 154 and our carbon tax passed through by Eskom is estimated to be R574 021 000.

Our estimated range is therefore:
• 2026 total carbon tax-related liability = R3 161 906 + R2 991 718 + R212 600 404 = R218 754 000
• 2030 total carbon tax-related liability = R9 485 718 + R8 975 154 + R574 021 090 = R592 481 962

Cost of response to risk
840000000

Description of response and explanation of cost calculation
In response to escalating energy costs, which will be exacerbated by carbon taxes, Northam made funds available to undertake an intensive investigation in alternative energy sources to address energy security challenges, escalating energy costs, carbon taxes and climate challenges. The investigation considered both energy storage and generation technologies. Energy storage technologies investigated included water energy; compressed air; heat storage; cold storage; electrical batteries and hydrogen fuel cells. The outcome of the investigation was that the energy storage options were not feasible at this stage, but will continued to be monitored and potentially revisited. Generation technologies investigated included hydrogen fuel cells; biomass; solar; wind; hydro power; diesel/gas generation and nuclear generation. The investigation concluded that solar, wind and on-site diesel and gas generation will the most feasible alternatives. Currently, we are in the process of installing on-site diesel generation, and the machines can be converted to gas generators. These initiatives will reduce Northam's energy intensity, and in turn reduce our GHG intensity. Reducing GHG emissions will result in reducing Northam's exposure to emerging climate change legislation.

The following projects have been or will be implemented to reduce the company's GHG emissions and carbon emissions:
- Booysendal North Rope Con implementation: completed in December 2021, with an installation cost of R588 million (alternative to diesel trucks)
- 1MWp Eland Solar rooftop: commercial operation date was in 2022, with an installation cost of R16.2 million
- 1MWp Booysendal Solar rooftop: commercial operation date was in 2022, with an installation cost of R13.4 million
- Zondereinde 80MW solar power project to be completed by the end of 2024
- Karreebosch 140MW wind farm expected to be completed by the end of 2025
- Khangela 140MW wind farm expected to be complete by third quarter 2025
- Furnace dry slag handling R75.85 million in capital commenced in FY2021, completed in FY2022
The total cost of response is therefore R693 450 000 (=R588 million + R16.2 million + R13.4 million +R75.85 million).

Comment
None.

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Water scarcity

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Water supply has been identified as a principal risk in Northam's top twenty principal business risks, and operations at the mines are water dependent, thus water shortages can disrupt production. The chronic effects of climate change, such as changing rainfall patterns and increased temperatures, may lead to increased water scarcity at Northam's sites in the long-term. Water is especially critical for the Zondereinde operations because the mine operates via hydro-mining. This means that the mine uses water under the pressure of gravity as its primary source of energy for underground mining equipment and cooling. Periods of water scarcity have the potential to result in periods of lower water availability, reducing the supply of water on site. Periods of water shortages could lead to restriction of water abstraction rates, or increased water costs for operations if other users within the catchment are impacted by water shortages (e.g., farmers). At Zondereinde, during a severe drought, the water supplier may not provide water to the Mine, which could impact operations. If water is received, Zondereinde will be required to share available supply the surrounding land users, which includes other mines, farmers and communities.
Furthermore, periods of lower rainfall especially when combined with increased evapotranspiration can impact water quality. Reduced water supply could also impact concurrent rehabilitation and ability to meet closure plan objectives (e.g., the use of land for agricultural may not be feasible given rainfall patterns). Finally, the TSFs face the risk of reduced dilution of the water in the tailings dam during drought events. This could lead to or worsen groundwater pollution.

Time horizon
Long-term

Likelihood
Unlikely

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
51000000

Potential financial impact figure – maximum (currency)
609000000

Explanation of financial impact figure
The financial impact of this risk can be quantified as a loss in operational continuity and consequently loss in production. Northam operates throughout the year and revenue in the reporting period was R34.1 billion.
In order to calculate the financial impact figure, the contribution of each mine has been taken into consideration, given that not all operations contribute equally.
The revenue per mine in FY22 was:
• Eland: R2.6 billion
• Zondereinde: R31.7 billion
• Booysendal: R18.9 billion
Assuming the impact of the risk lasted one week, the financial impact at each mine would be:
• Eland: R51 million
• Zondereinde: R609 million
• Booysendal: R363 million
It is likely that operational cessation due to water scarcity would impact one operation at a time, not all three at once. Therefore, the potential financial impact ranges from R51 million (Eland) to R609 million (Zondereinde).

Cost of response to risk
123330000

Description of response and explanation of cost calculation
Northam has implemented various measures to conserve water at our operations. Our target is for above 75% of our total water consumption to be recycled water. We surpassed this target in FY2022 with water recycling at 84%. Zondereinde, Booysendal and Eland have updated their water balances. The water balances are dynamic and will allow for scenario planning to develop a water demand and conservation plan. This cost of updating the water balances was approximately R2.5 million. We also installed electronic flowmeters across some of the operations in the previous reporting year. Booysendal has contributed towards the construction of two 10ML reservoirs off site and erected additional 8.6 and 10ML reservoirs on site as a buffer against water supply disruptions. Booysendal's operations receive water from the Olifants River, which is managed by the Lebalelo Water User Association. Our engagement with the Lebalelo Water User Association also addresses the water supply risk, given that one of the primary areas of focus of this association is bulk water supply to its mining entities. The Olifants Management Model (OMM) Programme, which has been developed by the Lebalelo Water User Association, aims to fast-track potable and bulk raw water infrastructure to supply mines and communities within the area with water by 2030. The construction phase of the Olifants Management Model (OMM) Programme started in October 2022. Northam is one of the mining companies that is a member of the OMM Programme, and capital expenditure costs are split between commercial water users and the Government. Northam contributed a total amount of R12.43 on the feasibility phase of the OMM Programme. Northam spent R108 million since 2019 at the Zondereinde smelter to improve effluent management and stormwater control. The mine is also going to implement a desilting of evaporation and TSF return water dam and a reverse osmosis (RO) plant in 2023 to improve recycling initiatives.
The total cost of response to risk is therefore R123 330 000 (R2.5 million + R12.43 million + R108.4 million)

Comment
None.

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)

Primary potential financial impact
Increased capital expenditures

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
In the long-term future, increased frequency and severity of extreme flooding events due to climate change may lead to disruptions or infrastructure damage at Northam's sites. The main risk associated with flooding is potential failure of tailings storage facilities (TSFs). Failure of TSFs would cause a severe safety hazard to on-site personnel and people in the neighbouring environment, as well as severe environmental damage. Failure of TSFs would incur increased capital expenditures for the repair of the facility and may also incur additional costs due to wider environmental impacts, such as litigation and remediation costs.

Time horizon
Long-term

Likelihood
Unlikely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
102000000

Potential financial impact figure – maximum (currency)
3600000000

Explanation of financial impact figure
The failure of a TSF due to a flash flood could shut down operation for between two to six weeks. The financial impact of this risk can be quantified as a loss in operational continuity and consequently loss in production. Northam operates throughout the year and revenue in the reporting period was R34.1 billion. In order to calculate the financial impact figure, the contribution of each mine has been taken into consideration, given that not all operations contribute equally.
The revenue per mine in FY22 was:
• Eland: R2.6 billion
• Zondereinde: R31.7 billion
• Booysendal: R18.9 billion
It is unlikely that an operational shutdown of the three mines will occur simultaneously, therefore, the estimated range considers the impact on the individual mines. The financial loss per mine for two weeks has been estimated (based on the revenue per mine) as:
• Eland: R102 million
• Zondereinde: R1.2 billion
• Booysendal: R726 million (Booysendal has two dams, and this financial value includes the impact on both dams)
Assuming the operational shutdown lasts six weeks, the estimated revenue loss would be:
• Eland: R306 million
• Zondereinde: R3.6 billion
• Booysendal: R2.1 billion
The financial impact figure therefore ranges between R102 million and R3.6 billion.

Cost of response to risk
122000000

Description of response and explanation of cost calculation
We follow an ongoing risk-based approach for managing our TSFs, which is entrenched in our code of practice and operating procedures. Due to its nature and scale, a TSF poses a variety of risks and it has the potential to cause harm or damage, in particular, to third parties and the natural environment within its potential zone of influence. These risks are assessed throughout the entire life cycle of the facility, including post closure risks. In South Africa, mine residue deposits are regulated by law in terms of the Guideline for the Compilation of a Mandatory Code of Practice on Mine Residue Deposits issued by the Department of Mineral Resources and Energy in 2000. This guideline makes the implementation of the SANS 10286 Code of Practice for Mine Residue Deposits compulsory; hence making SANS 10286 secondary legislation.

Tailings management is the responsibility of the Executive: Mining, General Manager and relevant processing management team and engineers through a formalised tri-party agreement with the Northam management team, operator and technical legal appointee. There are four layers of oversight in managing our tailings facilities namely
1: The operator under the control of operational legal appointees, responsible for the day-to-day operational activities
2: The Operations management team, under the lead of the Operations Executive and respective General Manager
3: Engineer of Record providing continuous support from initial design and construction, to monitoring and support. This includes inspections and audits on a quarterly basis.
4: Scheduled and formalised independent annual reviews
The independent audit reports are submitted to the Executive Committee and the Health, Safety and Environmental Board sub-committee for scheduled feedback to the Board.

The management of our mineral residue facilities and water systems and structures is centered on adopting best management practices and applying rigorous technical controls to prevent catastrophic failures of our tailings dams. Each operation has a code of practice in line with statutory guidelines. Northam has identified controls for each of our TSFs, including but not limited to, installing mast lights; installing dust suppression systems; elevating synthetic filter drains; increasing emergency steps and installing lightning detectors. The controls are anticipated to be implemented in 2023. The total cost of the controls across the three sites is R122 million.

Comment
None.

C2.4

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

C2.4a

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

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of lower-emission sources of energy

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
Northam obtains the bulk supply of its energy from Eskom, South Africa's national energy supplier. Energy security is one of our top business risks. Unreliable electricity supply, with planned and unplanned power outages, poses a significant risk to our operations, impacting our production and compromising the safety of our underground employees. We embarked on an investigation of Eskom's ability to provide energy in view their numerous infrastructure, operational and financial challenges. The likelihood of South Africa experiencing extensive loadshedding on a daily basis at Levels 2 to 4 is almost definite. Loadshedding forces mining companies to reduce their energy load through curtailment. At level 2 Northam has to reduce its load by 10% and at level 4 with 20%, which implies that certain production units at its operations have to be switched off in response to the curtailment and associated safety implications. Northam has identified the opportunity to overcome this risk whilst reducing our GHG emissions by increasing our focus on generating renewable energy at our operations. Our strategy of investing in wind and solar energy generation has resulted in Northam targeting between 60% and 80% of total electrical energy being generated by renewable energy sources. We have installed rooftop solar projects at Eland (1 MW capacity) and Booysendal (1 MW capacity) during the financial year. In the pipeline, there is a 20MW solar power project expected to be complete in 2024 at Eland; at Zondereinde a 80MW solar power project to expected to be completed by the end of 2024; and two wind farms (both 140MW) are expected to be completed in 2025. This will reduce some of our reliance on Eskom and plans to expand the solar plant are already in progress. This will reduce our total GHG emissions and intensity, as well as the costs associated with energy.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
33800000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The rooftop solar PV plants at Eland and Booysendal mines became operational during the reporting period. Both rooftop solar projects have an installed capacity of 1 MWp each, are estimated to result in an annual financial savings of R17.7 million and R16.1 million respectively. Therefore, the financial impact figure is estimated at R33 800 000.

Cost to realize opportunity
29600000

Strategy to realize opportunity and explanation of cost calculation
Following a detailed review, Northam has developed a new energy policy in the previous reporting year, in which Northam commits to developing and implementing strategies to reduce energy cost and energy intensity through using energy from renewable sources. Northam developed an energy strategy aimed at achieving our sustainability targets whilst creating value for our stakeholders. This strategy was implemented in FY2022.
The installation cost for the rooftop solar projects at Eland and Booyesendal was R16.2 million and R13.4 million respectively, therefore the total cost to realize the opportunity is R29.6 million.

Comment
None.

Identifier
Opp2

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description
The main market-related opportunity for Northam relates to the continued demand for batteries and fuel cells. International pressure on the reduction of GHG emissions from energy is putting pressure on the electricity and automobile sectors to invest in the development of alternative sources of clean energy, such as fuel cells. Fuel cells and batteries are required for the energy sector to ensure continuous energy can be provided and sustained, particularly from erratic sources such as wind and solar. Fuel cells and batteries are thus critical in the global transition towards a low-carbon world. Since most fuel systems use PGMs as catalysts, the emerging fuel cell industry presents an opportunity for PGM producers such as Northam to access a new and low-carbon market due to increased demand for batteries and fuel cells. This market shift is anticipated to increase in the long-term.

Time horizon
Long-term

Likelihood
About as likely as not

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
242000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Assuming the PGM supply were to remain unchanged, an increased demand PGMs for use in fuel cells in expected to cause an increase in the PGM basket price. Assuming a 1% increase in the average PGM basket price of R32 822/oz to R33 210/oz, and assuming the same amount of PGM is sold as in FY2022 (736 798 oz), annual revenue is estimated to increase from R24.22 billion to R24.46 billion. Therefore, the financial impact of this opportunity is estimated at an increase in annual revenue of R242 million.

Cost to realize opportunity
37000000

Strategy to realize opportunity and explanation of cost calculation
Northam contributes to and actively participates in the World Platinum Investment Council (WPIC), the Platinum Guild International (PGI), and the International Platinum Group Metals Association (IPA). We are an active member of the Minerals Council of South Africa (MCSA). Our membership on these industry associations provides us insight into the current and anticipated future uses of PGMs and its role in the global economy. This includes the PGM's increased investment in research and development of fuel cell technologies as a low-carbon energy source and the critical need for the use of PGMs in internal combustion engines, as a means to reduce GHG emissions produced from diesel combustion in mobile vehicles. In FY2021, Northam spent a total of R37 million on market-related membership.

Comment
None.

Identifier
Opp3

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of more efficient production and distribution processes

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
Energy security is the top business risk for Northam. Northam therefore has the opportunity to overcome the risk of energy security by increasing our energy efficiency whilst in turn reducing our GHG intensity from energy consumption. A prime focus of Northam is on managing energy efficiency and improving energy intensity at our operations. Since the inception of the Northam Group, energy efficiency has always been considered an engineering imperative. Energy efficiency has informed our approach to engineering design and implementation and is illustrated in by the adoption of innovative technologies such as using hydro-mining and backfilling at Zondereinde, whereby water under the pressure of gravity provides the main source of energy for underground mining equipment and cooling. Northam has been instrumental in developing and improving the hydropower and backfilling technologies to the extent that they have become reliable and dependable systems. As a result of our approach, it is estimated that an upfront saving of 37% in electrical energy has been applied since Northam first went into production in 1992. Northam continues to investigate and implement energy efficiency measures. In FY2021, implementation commenced on the furnace dry slag handling system at Zondereinde, which was completed in FY2022. This dry slag handling system results in reduced energy requirements compared to the conventional wet slag handling system. Furthermore, the Booysendal North Rope Conveyor was implemented in December 2021 as an energy-efficient alternative to diesel trucks for transportation of ore.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
916150000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The estimated total saving in electrical energy due to Northam employing both backfill and hydropower compared to a conventional compressed air mine at similar heat loads and using timber support methods is 50 400 MWh for backfill and 190 399 MWh for hydropower. As such, this results in a saving of 240 800 MWh in Eskom electricity use per annum. In 2022, Eskom's cost of energy was R1.51/kWh, which equates to a saving of R363.6 million for FY22 for Northam.
Due to the use of hydropower, the following initiatives have resulting in electrical energy savings:
• Avoiding the use of compressed air: 75 264 MWh annual savings
• Reduced pumping requirements: 80 181 MWh annual savings
• Reduced refrigeration: 190 399 MWh annual savings.
The total annual savings of the three initiatives are estimated at 345 844 MWh, which results in an estimated cost saving of R522 200 000.
Thus, the total cost saving realized by the use of hydropower is R363.6 million + R522.2 million = R885.8 million.

Furthermore, the furnace dry slag handling project is expected to save 12 900 MWh, which at the 2022 rate of R1.5/kWh rate equates to R19.35 million in savings. The Booysendal North Rope conveyor replaces diesel for trucking at a rate of 41 486 litres/month and uses zero power as it operates via regeneration, requiring only negligible starting power. At an average diesel price of R22.2 per litre for 2022, this results in estimated savings of R11 million for 2022. Together, these energy-efficiency measures resulted in estimated savings of R916.15 million (R885.8 million + R19.35 million + R11 million).

Cost to realize opportunity
663500000

Strategy to realize opportunity and explanation of cost calculation
There are no additional costs associated with hydro-mining and backfilling, as these are embedded in our operational design. The dry slag handling project cost R76 million, the rope conveyor had direct costs of R483 million and indirect costs were R105 million. In total, this results in a cost of R664 million. Following a detailed review, Northam had developed a new energy policy in FY2021, in which Northam commits to developing and implementing strategies to reduce energy cost and energy intensity through using energy from renewable sources. Northam is currently developing an energy strategy aimed at achieving our sustainability targets whilst creating value for our stakeholders.

Comment
None.

C3. Business Strategy

C3.1

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

Row 1

Climate transition plan
No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a climate transition plan within two years

Publicly available climate transition plan
<Not Applicable>

Mechanism by which feedback is collected from shareholders on your climate transition plan
<Not Applicable>

Description of feedback mechanism
<Not Applicable>

Frequency of feedback collection
<Not Applicable>

Attach any relevant documents which detail your climate transition plan (optional)
<Not Applicable>

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future
Northam has developed a low-carbon transition strategy, but currently timetables for its implementation to extend beyond the next two years. Northam has completed its renewable energy roadmap, which will serve as the cornerstone for its low-carbon transition and GHG emission reduction plan in 2030. Unfortunately, we are still relying on Eskom, our sole provider of electrical energy in South Africa, and their lack of a low-carbon transition, as well as their inability to produce a reliable power supply, will impede our transition even more at this point. We need to increase on-site generating capacity to handle our production and safety concerns owing to current and projected load curtailment and cutbacks. This, along with our growth strategy, are the primary reasons we cannot commit to net zero at this time.

Explain why climate-related risks and opportunities have not influenced your strategy
<Not Applicable>

C3.2

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

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

C3.2a

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

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Physical climate scenarios: RCP 8.5	Company-wide	<Not Applicable>	Northam conducted a climate-related scenarios analysis in 2020 for the Booysendal and Zondereinde operations. The analysis used timeframes from a present-day baseline until 2050. The emission scenario RCP 8.5 was utilized to represent the worst case 'business as usual' situation with high emissions throughout the 21st century. The analysis was extended to cover Eland in 2023 for the same time period under SSP 8.5 (the equivalent scenario using newer climate models).

C3.2b

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

Row 1

Focal questions

The scenario analysis was carried out with the objective to examine the effects of the changing climate on the company's operations and to establish effective solutions (climate adaptation). The analysis sought to determine which risks climate change would pose to Northam's sites over various timeframes, assuming a 'business-as-usual' scenario.

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

By 2050, for all operations, the analysis showed a significant increase in water stress and drought, a moderate increase in heavy rainfall storm events, heavy precipitation and flooding, and a moderate increase in periods of extreme heat. The potential impacts could include physical damage to infrastructure, a disruption in operations and maintenance, reduced operational capacity of site equipment, increased expenditure on water and electricity, tailings dam breaches, ground and water pollution and increased frequency of safety incidents, and ultimately losses in revenue and compromised profitability. Site specific vulnerabilities were also identified. For example, Zondereinde is particularly vulnerable to the impacts of flooding given its deep underground operations, and ecological impacts are relevant to the biodiversity offset/conservation area adjacent to the Booysendal mine. Various adaptation and general risk mitigation measures were identified as part of the analysis and are in the process of being financially quantified and scheduled.

Also to note, due to the anticipated long-term significant increase in drought possibility, as illustrated in this scenario study, Northam has identified water supply as a "top twenty" major business risk that is monitored as part of our overall risk management strategy. Risk management is critical to accomplishing our long-term strategic goals.

C3.3

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Northam's principal commodities include three precious metals: platinum, palladium, and rhodium. These metals are recognized for their clean metal character and are utilized in fuel cells, which may become an important component in the transition to a low-carbon economy. According to a 2017 World Bank analysis on climate-wise mining, the sales of platinum, among other base metals, are predicted to benefit from a low-carbon energy transition throughout the century, most notably in the transportation sector, where hydrogen cars may enhance platinum demand. Globally, the financial benefits of developing a new PGM industry have not been assessed. There is however the potential for Northam to protect its income as a result of the uptake in these new technologies. Additionally, it is possible that the market share lost due to phasing out of internal combustion engines (due to the shift to electric vehicles) may be replaced by an increased demand for PGMs for use in hydrogen and associated fuel cells. We anticipate that our goods and services will be influenced in the following 3 to 5 years as the shift to a low-carbon economy gathers traction.
Supply chain and/or value chain	Yes	Ore is transported by road out of the Booysendal Mine in the eastern limb of the Bushveld Complex to the Zondereinde Mine in the western limb of the Bushveld Complex. Flooding might occur if there is unusually heavy or protracted downpours, which would impede roadways and, as a result, this transport of concentrates. At present, this risk has been identified but evaluated as insignificant because an alternative route is available if the primary route is obstructed. Intense storms caused by climate change, on the other hand, might affect the larger value chain, including logistics such as product transportation, raw material supply to the site, and ore delivery to the smelters. We predict that our business's supply chain and/or value chain will be affected in the next 10 to 20 years if climate change impacts worsen dramatically.
Investment in R&D	Yes	In order to reduce Northam's total GHG emissions, we have increased our focus on energy efficiency and renewable energy use at our operations. This has involved investment in research and development of energy efficiency initiatives and renewable energy projects and will result in our products being less carbon intensive. Our strategy of investing in wind and solar energy generation has resulted in Northam targeting between 60% and 80% of total electrical energy being generated by renewable energy sources. In FY2022, installed 1 MW solar carport project at Eland and a 1MW solar rooftop project at Booysendal, which started operating in the third quarter of 2022. In the pipeline, there is a 20MW solar power project expected to be complete in 2024 at Eland; at Zondereinde a 80MW solar power project to expected to be completed by the end of 2024; and two wind farms (both 140MW) are expected to be completed in 2025.
Operations	Yes	As promised by the Minister of Finance in the 2019 Budget, the President enacted fully the law the Carbon Tax Act No 15 of 2019, which went into effect on June 1, 2019. Climate change constitutes one of the most pressing issues confronting humanity, and the fundamental goal of the carbon tax is to minimize the emission of greenhouse gases (GHG) in an environmentally friendly, cost-effective, and economical manner. The imposition of a carbon price has already raised the operational expenses of Northam's mines. At current rates, the monetary cost of this tax is estimated at less than 0.03% of Northam's total energy expenses. It should be noted that certain vendors will pass on the carbon tax, which might increase the cost of raw materials for Northam. In addition, the following phase of the carbon tax could place a carbon price on electricity beginning in 2026, which will have a significant financial implication for Northam.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Capital expenditures Acquisitions and divestments Access to capital Assets Liabilities	Revenues: Revenues are generated primarily by Northam's three core PGMs: platinum, palladium, and rhodium. As catalysts, these basic products are employed in battery packs, hybrids, and fuel cell technology. The developing fuel cell sector, which is expected to play an important part in the transition to a low-carbon economy, has the possibility to sustain platinum demand , protecting Northam's sales and profit. However, in the short-term, the drastic uptake in electric vehicles (in place of internal combustion engines) may negatively impact platinum demand. During the corporate strategic planning process, Northam evaluates climate change risks and income potential. The level of this effect ranges from moderate to severe. Direct expenses: Regulatory risks, such as the implementation of obligatory national GHG reporting and a carbon price, will raise our operational costs. We keep making investments in energy-saving measures such as hydro-power mining in Zondereinde and the ropecon conveyor belt system in Booysendal. All of these approaches cut energy use. The level of this effect ranges from moderate to severe. Renewable energy initiatives will also offer lower energy prices than the current electrical energy services provider, Eskom. Capital expenditures: Increased pressure on businesses to be more responsible may result in reputational risks: A better knowledgeable stakeholder body may become a pressure group, and unfavorable stakeholder behavior may impede the company's capacity to raise money if not handled properly (financial institutions include climate change risk assessments into their due diligence screenings). Furthermore, Northam's participation on ESG indices and with rating agencies may be jeopardized if the firm is deemed to be failing to engage in a manner that is socially responsible. Northam ensures that risks and opportunities associated with climate change are assessed through capital expenditure/capital allocation. Like in the design of our Booysendal mine, we considered energy efficiency and physical climatic threats. The extent of this effect ranges from minor to moderate. Acquisitions and divestments: All of our transactions are required to undergo a due diligence process that assesses a variety of environmental implications, particularly climate risks and opportunities. As an example, when we purchased the Booysendal mine, we analyzed several scenarios of open cast and shallow mining and finally chose the former due to a greater effectiveness of water usage and lower energy consumption. The extent of this effect ranges from minor to moderate. Access to capital: If reputational risks are not effectively handled, they may reflect in challenges to the company's ability to raise funding, since financial institutions include climate change risk assessments into their due diligence screenings. Furthermore, Northam's participation on ESG indices and with rating agencies may be jeopardized if the firm is deemed to be failing to engage in a socially responsible way. Northam currently has accessibility to more conventional types of funding. despite this Northam has not sought green funding, we continue to look for prospective options. The extent of this effect ranges from low to moderate. Assets: It is critical for our organization to have control on how climate change affects our assets. Management is concerned about the possibility of contamination and regularly monitors conservation techniques and water-saving activities, as well as water levels in pollution-control dams, which might result in spills or run-off. The 'at risk' water bodies are the Groot Dwarsrivier and Der Brochen Dam close to our Booysendal operations. To prevent any discharge or accidental spills, management has implemented an emergency preparation strategy which comprises a stakeholder timetable as well as emergency cleanup methods. To reduce the consequences of heavy rainfall during the rainy season, three water evaporators have been erected at the pollution control dams. The extent of this effect ranges from minor to moderate. Liabilities: Regulatory risks, such as the implementation of a carbon price, may raise our operational expenses, posing a liability for the organization. We keep investing in energy-saving innovations, such as hydro-power mining in Zondereinde and the ropecon conveyor belt system in Booysendal. All of these approaches reduce energy use. The extent of this effect ranges from minor to moderate. The responsibility associated with carrying out the closure of operations is R 200 395 000 at Zondereinde, R263 041 000 at Booysendal, and R 497 955 000 at Eland, as disclosed within Northam's FY2022 Annual Financial Statements (total rehabilitation and decommissioning liability provision.

C3.5

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

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

C4. Targets and performance

C4.1

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

Absolute target
Intensity target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number
Abs 1

Is this a science-based target?
No, and we do not anticipate setting one in the next two years

Target ambition
<Not Applicable>

Year target was set
2021

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Location-based

Scope 3 category(ies)
<Not Applicable>

Base year
2019

Base year Scope 1 emissions covered by target (metric tons CO2e)
44263

Base year Scope 2 emissions covered by target (metric tons CO2e)
961326

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)
<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
1005589

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
100

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
100

Target year
2030

Targeted reduction from base year (%)
33

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
673744.63

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
50096

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
1380522

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
1431177

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

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

-128.249275405817

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
During FY2021, Northam set new targets to reduce greenhouse gas emissions by 27% by 2030, from a 2019 baseline. This target covers all of Northam's scope 1 and 2 emissions.

Plan for achieving target, and progress made to the end of the reporting year
Northam's focus is on managing energy efficiency and improving our energy intensity. This will in turn result in a reduction in GHG emissions and therefore contribute towards achieving our emissions targets.

In F2022, our scope 1 and 2 emissions increased by 6.5% from prior year, driven by an increase in electricity consumption. This is due to the fact that production is still ramping up at most operations, illustrated by a 4.4% increase in revenue during the year. However, our scope 1 and 2 GHG emission intensity improved by 20% from 2019 baseline to 165kg CO2e/tonne milled, and energy intensity by 28% to 0.59 GJ/tonne milled. Additionally, scope 1 and 2 emissions are expected to reduce significantly once our renewable energy projects come on-line.
Our strategy of investing in wind and solar energy generation has resulted in Northam targeting between 60% and 80% of total electrical energy being generated by renewable energy sources. We have also installed rooftop solar projects at Eland and Booysendal during the financial year. These projects are each 1 MW capacity. In the pipeline, there is a 20MW solar power project expected to be complete in 2024 at Eland; at Zondereinde a 80MW solar power project to expected to be completed by the end of 2024; and two wind farms (both 140MW) are expected to be completed in 2025.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number
Int 1

Is this a science-based target?
No, and we do not anticipate setting one in the next two years

Target ambition
<Not Applicable>

Year target was set
2021

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Location-based

Scope 3 category(ies)
<Not Applicable>

Intensity metric
Metric tons CO2e per metric ton of ore processed

Base year
2019

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)
0.01

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)
0.2

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)
0.21

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure
100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure
100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure
<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure
100

Target year
2030

Targeted reduction from base year (%)
60

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]
0.084

% change anticipated in absolute Scope 1+2 emissions
-27

% change anticipated in absolute Scope 3 emissions

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)
0.0058

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)
0.159

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)
0.1652

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
35.5555555555555

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
During FY2021, Northam set new targets to reduce carbon intensity by 60% by 2030, from a 2019 baseline. This target covers all of Northam's scope 1 and 2 emissions.

Plan for achieving target, and progress made to the end of the reporting year
Northam's focus is on managing energy efficiency and improving our energy intensity. This will in turn result in a reduction in GHG emissions and therefore contribute towards achieving our emissions targets.

In F2022, our scope 1 and 2 emissions increased by 6.5% from prior year, driven by an increase in electricity consumption. This is as due to the fact that production is still ramping up at most operations, illustrated by a 4.4% increase in revenue during the year. However, our scope 1 and 2 GHG emission intensity improved by 20% from 2019 baseline to 165kg CO2e/tonne milled, and energy intensity by 28% to 0.59 GJ/tonne milled. Additionally, scope 1 and 2 emissions are expected to reduce significantly once our renewable energy projects come on-line.
Our strategy of investing in wind and solar energy generation has resulted in Northam targeting between 60% and 80% of total electrical energy being generated by renewable energy sources. We have also installed rooftop solar projects at Eland and Booysendal during the financial year. These projects are each 1 MW capacity. In the pipeline, there is a 20MW solar power project expected to be complete in 2024 at Eland; at Zondereinde a 80MW solar power project to expected to be completed by the end of 2024; and two wind farms (both 140MW) are expected to be completed in 2025.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

C4.2

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

C4.2b

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

Target reference number
Oth 1

Year target was set
2021

Target coverage
Company-wide

Target type: absolute or intensity
Intensity

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

Energy consumption or efficiency	GJ

Target denominator (intensity targets only)
metric ton of product

Base year
2019

Figure or percentage in base year
0.82

Target year
2030

Figure or percentage in target year
0.33

Figure or percentage in reporting year
0.59

% of target achieved relative to base year [auto-calculated]
46.9387755102041

Target status in reporting year
Underway

Is this target part of an emissions target?
Int 1

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
During FY2021, Northam set a new energy intensity target (i.e. to reduce energy intensity by 60% by 2030 compared with the 2019 baseline). This target is linked to the emissions target to reduce to reduce carbon intensity by 60% by 2030, from a 2019 baseline.

Plan for achieving target, and progress made to the end of the reporting year
Northam's focus is on managing energy efficiency and improving our energy intensity. This will in turn result in a reduction in GHG emissions and therefore contribute towards achieving our emissions targets.

In F2022, our scope 1 and 2 emissions increased by 6.5% from prior year, driven by an increase in electricity consumption. This is as due to the fact that production is still ramping up at most operations, illustrated by a 4.4% increase in revenue during the year. However, our scope 1 and 2 GHG emission intensity improved by 20% from 2019 baseline to 165kg CO2e/tonne milled, and energy intensity by 28% to 0.59 GJ/tonne milled. Additionally, scope 1 and 2 emissions are expected to reduce significantly once our renewable energy projects come on-line.
Our strategy of investing in wind and solar energy generation has resulted in Northam targeting between 60% and 80% of total electrical energy being generated by renewable energy sources. We have also installed rooftop solar projects at Eland and Booysendal during the financial year. These projects are each 1 MW capacity. In the pipeline, there is a 20MW solar power project expected to be complete in 2024 at Eland; at Zondereinde a 80MW solar power project to expected to be completed by the end of 2024; and two wind farms (both 140MW) are expected to be completed in 2025.

List the actions which contributed most to achieving this target
<Not Applicable>

C4.3

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

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	5	1275456
Implementation commenced*	2	3826
Implemented*	4	265191
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
13416

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
19350000

Investment required (unit currency – as specified in C0.4)
75850000

Payback period
4-10 years

Estimated lifetime of the initiative
21-30 years

Comment
In FY2021, implementation commenced on the furnace dry slag handling system at Zondereinde, which was completed in FY2022. This dry slag handling system results in reduced energy requirements compared to the conventional wet slag handling system. The system will be in place for the duration of life of mine. The furnace dry slag handling project is expected to save 12 900 MWh, which at the 2022 rate of R1.5/kWh rate equates to R19.35 million in savings.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	Controlling energy efficiency and increasing energy intensity are priorities for Northam. In FY2022, the Group's energy intensity decreased by 33% since the prior FY. Since the Group's beginnings, with the formation of the Zondereinde enterprise, energy efficiency has been seen as an engineering imperative. This approach has influenced our technical development and execution, as seen using new technologies such as hydropower for underground mining equipment and cooling, as well as backfill technology. Northam created a new energy policy in FY2021. Northam's energy policy pledges to enhancing energy efficiency at current operations, considering energy efficiency and GHG emission consequences for any forthcoming initiatives, and continuing to investigate sources of clean energy as part of its energy strategy. Management, employees, and contractors working in operations perform an important role in advancing the energy policy by taking ownership of, and participating in, energy management initiatives and activities, as well as incorporating and taking into account the carbon impact in daily decision-making and practices.
Please select	
Please select	
Please select	

C4.5

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

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation
Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon
The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Road	Hydrogen fuel cell

Description of product(s) or service(s)
PGMs are critical components in many technologies that reduce greenhouse gas emissions. Autocatalysis, which decreases CO2 and NOx emissions, is one of the most common uses for PGMs. Autocatalysts utilize around 40% of platinum demand and 70% of palladium demand (noting that with the uptake of electric vehicles, the demand for autocatalysts used in ICEs will decrease). Furthermore, platinum is utilized in the production of hydrogen fuel cells, which have enormous promise as a form of alternative energy. In accordance with section 3.1 of the Technical Annex of the EU Taxonomy Report (March 2020), manufacturing of fuel cell technologies qualifies as manufacturing of low-carbon technologies.
This revolutionary technology has the potential to replace today's traditional combustion engines and stationary power systems over the next few decades. The development of fuel cells is currently in its early stages, and commercial demand from this source is rather small, but we expect that will change as the technology's costs fall and applications become more prevalent.
At this point, it is impossible to establish a precise estimate of the amount of metals utilized in each final product, however it is expected to reflect the global market trend.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
87

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?
No

C5.1a

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

Row 1

Has there been a structural change?
No

Name of organization(s) acquired, divested from, or merged with
<Not Applicable>

Details of structural change(s), including completion dates
<Not Applicable>

C5.1b

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

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

C5.2

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

Scope 1

Base year start
July 1 2018

Base year end
June 30 2019

Base year emissions (metric tons CO2e)
44263

Comment

Scope 2 (location-based)

Base year start
July 1 2018

Base year end
June 30 2019

Base year emissions (metric tons CO2e)
961326

Comment

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 1: Purchased goods and services

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
1111559

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3 category 2: Capital goods

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
256468

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

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

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
31500

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3 category 4: Upstream transportation and distribution

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
12730

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3 category 5: Waste generated in operations

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
3795

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3 category 6: Business travel

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
76

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3 category 7: Employee commuting

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
366636

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
847

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3 category 10: Processing of sold products

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
4104696

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

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

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start
July 1 2021

Base year end
June 30 2022

Base year emissions (metric tons CO2e)
195030

Comment
In 2023, Northam extended its Scope 3 emissions calculation to cover all relevant categories of Scope 3 emissions per the GHG Protocol, and all material sources of Scope 3 emissions per category. Previously, Northam's Scope 3 calculation only covered purchased goods and services (Category 1), fuel-and-energy-related activities (Category 3), and waste generated in operations (Category 5). At the time that Northam's FY2022 Sustainability Report was published (August 2022), the figure reported included only Category 1, 3 and 5 Scope 3 emissions. However, within Northam's FY2022 CDP Climate Response, which was finalised during July 2023, the comprehensive calculation of Scope 3 emissions for FY2022 was available. As such, and to improve accuracy and completeness, the figures reported in Northam's 2022 CDP Climate Response are much higher than those presented in Northam's FY2022 Sustainability Report. This has not resulted in a restatement of data or change in baseline data on the CDP system.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
50096

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.2

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

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment

C6.3

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

Reporting year

Scope 2, location-based
1380522

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?
No

C6.5

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

Purchased goods and services

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1111559

Emissions calculation methodology
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Emissions from the upstream manufacturing of purchased mining goods and delivery of purchased services. The total expenditure on purchased goods and services was obtained from procurement. Procurement spend data was used to estimate the emissions associated with mining goods and services. This activity data was multiplied by the appropriate emission factors sourced from Quantis.

Capital goods

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
256468

Emissions calculation methodology
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Emissions from the production of purchased capital goods were calculated using spend data (CAPEX). The total expenditure on purchased capital goods was obtained from procurement. Procurement spend data was used to estimate the emissions associated with capital goods. This activity data was multiplied by the appropriate emission factors sourced from Quantis.

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

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
31500

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
Well-to-tank (WTT) emissions from purchased fuels are calculated by multiplying each purchased fuel type with the respective DEFRA (2022) WTT emission factor. Purchased fuel quantities were obtained from each site's internal records, which originate from supplier invoices and records. This results in total estimated emissions of approximately 31 500 tCO2e for this scope 3 category.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
12730

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
This category includes emissions associated with the upstream transportation of purchased goods. The total distance travelled to transport concentrate from third party companies, Booysendal and Eland to Zondereinde was multiplied by the appropriate emission factor sourced from DEFRA. To estimate the transportation of other purchased goods, it was assumed that 4% of the expenditure on purchased goods and services was for transport expenditure. Therefore, 4% of the procurement spend was multiplied by a spend-based emission factor for upstream transport.

Waste generated in operations

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
3795

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
Emissions from the transportation and treatment of purchased waste were calculated by multiplying the quantity of each waste type with the appropriate DEFRA (2021) emission factor. These DEFRA emission factors account for emissions from transportation as well as treatment of waste. Quantities of waste sent for disposal and recycling were obtained from each site's internal records, which originate from waste collection invoices and records.

Business travel

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
76

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Northam's site carbon footprint calculators allow for the entry of business travel mileage and thus the subsequent calculation of business travel emissions. Activity data was sourced from the total mileage claimed. It was assumed that these employees were using average passenger cars. Emission factors were sourced from DEFRA, it was assumed that "Own Vehicle" emission factor is for an average car and is represented by the average of petrol and diesel car emission factors.

Employee commuting

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
366636

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Northam does have employees which commute to and from work, resulting in associated emissions. Therefore, this scope 3 category is relevant to Northam. Employee travel emissions were broken down by mode of transport, i.e., public transport was assumed to be buses, own transport was assumed to be passenger cars. DEFRA emission factors were applied to each mode of transport and the total distance travelled by our employees and contractors.

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Northam does not own any upstream leased assets. Therefore, this scope 3 emission category is irrelevant and thus no calculations have been conducted for this category.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
847

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Emissions from the transportation of final products to the client were calculated using the total distance travelled. The distance was considered on the basis of point of sale were Northam gives control of PGM products. The activity data was multiplied by the appropriate emission factors sourced from DEFRA.

Processing of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
4104696

Emissions calculation methodology
Average data method

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

Please explain
Northam sells its products to refiners who produce emissions through the refining progress. Thus, the calculation performed covers the downstream processing of Chrome and Nickel (which account for the vast majority of emissions due to the mass sold by Northam significantly exceeding PGMs) which are sold to Glencore. Glencore's total smelter GHG emissions were divided by their total tonnes smelted to obtain a representative GHG intensity which was then multiplied by the tonnes of Chrome and Nickel sold by Northam to obtain the emissions value, with the assumption that all Chrome and Nickel sold is processed.

Use of sold products

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
The products we produce do not consume energy or produce GHG emissions (directly) and as such, Northam does not believe that this category is relevant. We do not sell to general consumers, but rather to industrial customers with whom we engage contractually. This category of emissions is not critical to any stakeholder (based on all the engagement we have with various stakeholders) and is not something we can influence.

End of life treatment of sold products

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
PGM products typically are designed for relatively long life cycles, compared to disposable goods. If a PGM product is disposed, the product is likely inert and will not evolve any material GHG emissions at end of life. The effort and time to collect this data does not justify the inclusion of this category. In addition, given that Northam is divorced from where its commodity is eventually utilised, therefore there is no scope to influence the end of life treatment emissions

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Northam does not lease any downstream assets to other entities. Therefore, this emission category is not relevant.

Franchises

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Northam does not hold, nor does it offer options to hold or operate franchises in its business. This emission category is therefore not relevant to Northam.

Investments

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
195030

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
In FY2022, Northam had a 35% stake at Royal Bafokeng Holdings (RBPlat). To calculate emissions from this category, the total scope 1&2 emissions from RBPlat was sourced from RBPlat's 2022 integrated report. The total emissions were multiplied by our previous 35% stake.

Other (upstream)

Evaluation status
Please select

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

Other (downstream)

Evaluation status

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
No

C6.10

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

Intensity figure
0.000042

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
1430618

Metric denominator
unit total revenue

Metric denominator: Unit total
34064270000

Scope 2 figure used
Location-based

% change from previous year
2.3

Direction of change
Increased

Reason(s) for change
Change in output

Please explain
Northam's revenue increased by 4.4% year-on-year, whilst our scope 1 and 2 emissions increased by 6.5%, as a result of increased electricity use by operations ramping up production.
Scope 2 emissions are expected to reduce significantly once our renewable energy projects come on-line.

C7. Emissions breakdowns

C7.1

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

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	47686.6	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	112.9	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	2296.46	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/area/region	Scope 1 emissions (metric tons CO2e)
South Africa	50096

C7.3

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

By facility

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Zondereinde Mine	27756	-24.6	27.4
Booysendal Mine	15103	-25.1	30.1
Eland Mine	7237	25.37	27.53

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	50096	<Not Applicable>	Northam's business is in metals and mining. Therefore, all of Northam's scope 1 emissions are attributed to metals and mining production activities. Northam does not have relevant carbon removals, so net scope 1 emissions are equivalent to gross scope 1 emissions.
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
South Africa	1380522	

C7.6

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

By facility

C7.6b

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Zondereinde Mine	917842	
Booysendal Mine	340369	
Eland Mine	122311	

C7.7

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

Not relevant as we do not have any subsidiaries

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	1380522		All of Northam's activities are categorised as metals and mining production activities. Therefore, all of Northam's scope 2 emissions are attributed to metals and mining production activities. Market-based scope 2 emissions are not applicable for Northam
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

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

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		Renewable energy projects in FY2022 included the installation of 1MW solar rooftops in Eland and Booysendal – however, these only started production in FY2023. Thus this is not applicable for FY2022.
Other emissions reduction activities	252990	Decreased	19.82	The Zondereinde backfill and hydropower initiatives, the Booysendal ropecon system and the dry slag granulation system resulted in a saving of 265 191 tCO2e. The percentage decrease from prior year emissions is (265 191 / 1 338 036) x 100 = 19.82%.
Divestment		<Not Applicable>		No divestments occurred in the reporting year.
Acquisitions		<Not Applicable>		No acquisitions occurred in the reporting year
Mergers		<Not Applicable>		No mergers occurred in the reporting year
Change in output	345572	Increased	25.83	Production increased from 8 145 kt milled in FY2021 to 8 660 kt milled in FY2022 (a 6.32% increase). Increased production resulted in increased emissions of 345 572 tCO2e. Scope 1 and 2 emissions in FY2021 were 1 338 036 tCO2e. The percentage increase is calculated as: (345 572 / 1 338 036) x100 = 25.83%.
Change in methodology	0	No change	0	No change in emissions calculation methodology occurred in the reporting year
Change in boundary	0	No change	0	No change in emissions calculation boundary occurred in the reporting year
Change in physical operating conditions	0	No change	0	No change in physical operating conditions occurred in the reporting year
Unidentified	0	No change	0	No unidentified emissions changes occurred in the reporting year
Other	0	No change	0	No other emissions changes occurred in the reporting year

C7.9b

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

Location-based

C8. Energy

C8.1

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

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

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	149966	149966
Consumption of purchased or acquired electricity	<Not Applicable>	0	1278261	1278261
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>		<Not Applicable>	
Total energy consumption	<Not Applicable>		1428227	1428227

C-MM8.2a

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

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	LHV (lower heating value)	149966
Consumption of purchased or acquired electricity	<Not Applicable>	1278261
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	
Total energy consumption	<Not Applicable>	1428227

C8.2b

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

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

C8.2c

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

Sustainable biomass

Heating value
Please select

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
No sustainable biomass was consumed in the reporting period.

Other biomass

Heating value
Please select

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
No other biomass was consumed in the reporting period

Other renewable fuels (e.g. renewable hydrogen)

Heating value
Please select

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
No other renewable fuels were consumed in the reporting period.

Coal

Heating value
LHV

Total fuel MWh consumed by the organization
66568

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
66568

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
Northam consumed 124812 tonnes of coal at Zondereinde Mine in FY2022.

Oil

Heating value
LHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
No oil was consumed in the reporting period. Oil-derived fuels (petrol, diesel and jet fuel) are accounted for in 'Other non-renewable fuels' below.

Gas

Heating value
LHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
No gas was consumed in the reporting period.

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

Heating value
LHV

Total fuel MWh consumed by the organization
83397

MWh fuel consumed for self-generation of electricity
41141

MWh fuel consumed for self-generation of heat
42257

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
This covers the consumption of petrol, diesel and Jet A-1 fuel. Petrol and diesel consumption was disaggregated according to stationary and mobile consumption. For the purposes of this CDP response, it has been reasonably assumed that all stationary petrol and diesel consumption is used in generators for the generation of electricity. All mobile petrol and diesel consumption, as well as the consumption of Jet A-1 fuel for helicopter use, has been categorised under fuel consumed for the generation of heat.

Total fuel

Heating value
LHV

Total fuel MWh consumed by the organization
149966

MWh fuel consumed for self-generation of electricity
41141

MWh fuel consumed for self-generation of heat
108825

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
This covers all fuels consumed by Northam in FY2022: coal, petrol, diesel, and jet A-1 fuel.

C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	41141	41141	0	0
Heat	108825	108825	0	0
Steam				
Cooling				

C-MM8.2d

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

	Total gross generation (MWh) inside metals and mining sector boundary	Generation that is consumed (MWh) inside metals and mining sector boundary
Electricity	41141	41141
Heat	108825	108825
Steam		
Cooling		

C8.2g

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

Country/area
South Africa

Consumption of purchased electricity (MWh)
1278261

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
108825

Total non-fuel energy consumption (MWh) [Auto-calculated]
1387086

C9. Additional metrics

C9.1

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

Description
Waste

Metric value
6992

Metric numerator
tonnes

Metric denominator (intensity metric only)

% change from previous year
3.78

Direction of change
Increased

Please explain
Northam is a member of the South Africa Waste Information System (SAWIS). All mines – Zondereinde, Eland and Booysendal – are registered with SAWIS. Northam's waste comprises of hazardous and non-hazardous waste. A third party collects hazardous waste and disposal slips are collected by Northam. Non-hazardous waste includes turf that is used to compact the landfill site on a daily basis. The Booysendal South and Eland mines are recent acquisitions and both operations are working to resolve legacy waste issues on-site. FY 2022 saw 255 ton increase in waste disposed. The reason for the increase is the need for significant amounts of waste removal upon acquisition of the Maroelabult mine by Northam's Eland mine.

Description
Other, please specify (Water recycled)

Metric value
32144

Metric numerator
m3

Metric denominator (intensity metric only)

% change from previous year
0.36

Direction of change
Increased

Please explain
Water is operationally critical for Northam, especially for Zondereinde as the mine uses the potential energy of water under the pressure of gravity as its primary source of energy (i.e., hydro mining). Water use reduction is promoted at our operations and 84% of total group water use in FY2022 was recycled, a 2% increase from FY2021.

Description
Land use

Metric value
22368

Metric numerator
ha

Metric denominator (intensity metric only)

% change from previous year
22.02

Direction of change
Please select

Please explain
Northam acknowledges that mining processes and operations have adverse environmental impacts on land and requires careful land management in order to maintain biodiversity. Northam established the Buttonshope Trust with the sole responsibility of overseeing offset areas and ensuring that land purchased for biodiversity purpose is operated according to acceptable biodiversity standards. The Buttonshope Conservancy Trust manages 14 691 hectares of land, of which 3 339 is specifically dedicated for Booysendal's biodiversity offset. The Trust consists of three Northam trustees, two highly qualified independent trustees and one trustee from Mpumalanga Tourism Parks Authority. Careful planning of new mining projects, extensive engagement with stakeholders and the surrounding community, and compliance with legislation all contributes towards sound land management and add value to our mining process.

Description
Other, please specify (SO2 emissions)

Metric value
8386

Metric numerator
Tonnes

Metric denominator (intensity metric only)

% change from previous year
14.85

Direction of change
Increased

Please explain
At Zondereinde's smelting operations we monitor our air emissions to ensure we comply with our Atmospheric Emission Licence (AEL). The emissions management plan for Zondereinde covers sulphur dioxide and particulate matter emissions from stack and fugitive emissions sources. Although a more relaxed MES for stack SO2 emissions was requested, ground-level SO2 concentrations at the Zondereinde operations are expected to remain within the legislated South African Ambient Air Quality Standards (AAQS).
Our AEL requires Zondereinde to implement a programme to offset SO2 emissions from the smelter plant to the receiving environment. Improvements started in 2020 and the bulk of the work was completed with the rebuild of Furnace 1 at the plant in F2022.
The hygiene phase of the project is in progress and predominantly addresses the capture and stacking of fugitive emissions. Upgrades in managing particulate emissions have been made by separating the converter and furnace off-gas streams and installing or upgrading abatement equipment. The total capital cost of the EMP programme amounts to R257 million. The increase in SO2 emissions year-on-year can be attributed to the increase in production as well as some of our input sources having a higher sulphur content.

Description
Other, please specify (Plastic recycling)

Metric value
134

Metric numerator
Tonne

Metric denominator (intensity metric only)

% change from previous year
109

Direction of change
Increased

Please explain
Zondereinde, Eland and Booysendal take pride in utilising resource efficiency and recycling materials such as plastics. The promotional campaigns increase awareness amongst employees and visitors. The quantity of recycled plastic significantly increased from the previous reporting year due to improved sorting and accounting at Zonderinde mine.

Description
Other, please specify (Scrap metal recycling)

Metric value
4360

Metric numerator
Tonne

Metric denominator (intensity metric only)

% change from previous year
42.5

Direction of change
Decreased

Please explain
The Booysendal South and Eland mines undertook significant clean-up exercises during FY2020 and F2021 upon acquisition. Less clean up was thus required by FY2022.

Description
Other, please specify (Timber recycling)

Metric value
1119

Metric numerator
Tonne

Metric denominator (intensity metric only)

% change from previous year
11.2

Direction of change
Decreased

Please explain
The Booysendal South and Eland mines undertook significant clean-up exercises during FY2020 and F2021 upon acquisition. Less clean up was thus required by FY2022.

Description
Other, please specify (Rubber recycling)

Metric value
309

Metric numerator
Tonne

Metric denominator (intensity metric only)

% change from previous year
9.9

Direction of change
Decreased

Please explain
The Booysendal South and Eland mines undertook significant clean-up exercises during FY2020 and F2021 upon acquisition. Less clean up was thus required by FY2022.

C-MM9.3a

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

Output product
Platinum group metals

Capacity, metric tons
10600000

Production, metric tons
8660082

Production, copper-equivalent units (metric tons)
8660082

Scope 1 emissions
50096

Scope 2 emissions
1380522

Scope 2 emissions approach
Location-based

Pricing methodology for copper-equivalent figure
Production in copper-equivalent units has been equated to production because the ratio of product to tonnes milled is essentially the same for all products.

Comment
Northam is unable to disaggregate scope 1 and 2 emissions between mining and metals activities, as such the Group's scope 1 and 2 emissions are reported here.

C-MM9.3b

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

Output product
Platinum group metals

Capacity (metric tons)
10600000

Production (metric tons)
8660082

Annual production in copper-equivalent units (thousand tons)
8660082

Scope 1 emissions (metric tons CO2e)
50096

Scope 2 emissions (metric tons CO2e)
1380522

Scope 2 emissions approach
Location-based

Pricing methodology for-copper equivalent figure
Production in copper-equivalent units has been equated to production because the ratio of product to tonnes milled for all of Northam's mined is very similar.

Comment
Northam is unable to disaggregate scope 1 and 2 emissions between mining and metals activities, as such the Group's scope 1 and 2 emissions are reported here.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

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

	Investment in low-carbon R&D	Comment
Row 1	Yes	In order to reduce Northam's total GHG emissions, we have increased our focus on energy efficiency and renewable energy use at our operations. This has involved investment in research and development of energy efficiency initiatives and renewable energy projects and will result in our products being less carbon intensive. Our strategy of investing in wind and solar energy generation has resulted in Northam targeting between 60% and 80% of total electrical energy being generated by renewable energy sources. In FY2022, installed 1 MW solar carport project at Eland and a 1MW solar rooftop project at Booysendal, which started operating in the third quarter of 2022. In the pipeline, there is a 20MW solar power project expected to be complete in 2024 at Eland; at Zondereinde a 80MW solar power project to expected to be completed by the end of 2024; and two wind farms (both 140MW) are expected to be completed in 2025.

C-MM9.6a

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

Technology area
Other, please specify (Renewable energy and energy efficiency)

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years
100

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

Average % of total R&D investment planned over the next 5 years
100

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
In order to reduce Northam's total GHG emissions, we have increased our focus on energy efficiency and renewable energy use at our operations. This has involved investment in research and development of energy efficiency initiatives and renewable energy projects and will result in our products being less carbon intensive. Our strategy of investing in wind and solar energy generation has resulted in Northam targeting between 60% and 80% of total electrical energy being generated by renewable energy sources.
The installation cost for the rooftop solar projects already implemented at Eland and Booyesendal was R16.2 million and R13.4 million respectively, therefore the total cost of this research and development is R29.6 million.

C10. Verification

C10.1

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

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

C10.1a

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

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
northam-sustainaiblity-report-2022-v2.pdf

Page/ section reference
Assurance Report, p. 96 - 104

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

C10.1b

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

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
northam-sustainaiblity-report-2022-v2.pdf

Page/ section reference
Assurance Report, p. 96 - 104

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

C10.2

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

C10.2a

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISAE 3000 (Revised), Limited Assurance	Total group electricity purchased (MWh) is assured as part of the annual independent limited assurance process
C9. Additional metrics	Other, please specify (Energy Intensity (GJ energy/tonne milled))	ISAE 3000 (Revised), Limited Assurance	Energy Intensity (GJ energy/tonne milled) is assured as part of the annual independent limited assurance process.

C11. Carbon pricing

C11.1

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

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.
South Africa carbon tax

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

South Africa carbon tax

Period start date
January 1 2022

Period end date
December 31 2022

% of total Scope 1 emissions covered by tax
16.44

Total cost of tax paid
1466373

Comment
All carbon tax paid in the reporting year is attributed to the Zondereinde operations. Booysendal and Eland operations only use diesel which is not considered under South Africa's current carbon tax act due to taxes already being places of diesel and petrol purchased.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

South Africa has a carbon tax in place, through the South African Carbon Tax Act No 15 of 2019, which came into effect from 1 June 2019, as announced by the Minister of Finance in the 2019 Budget. The carbon tax poses increased costs for Northam's operations. The security of electrical power is classified as Northam's biggest risk to its business and more specifically to the safety of our underground personnel at our Zondereinde Mine. Generators were installed at Zondereinde Mine when it was constructed, however these measures are no longer adequate to mitigate the growing risk of increasing levels of load curtailment by Eskom and increased risk of a partial, or even total, shutdown of the electrical Eskom grid, which may be imminent and is beyond Northam's control. A total grid failure, or even partial, grid failure will take at least two weeks to restore. This means that Northam may potentially be required to increase the use of our diesel generators, increasing our carbon tax liability in the future. Northam also may experience pass-through costs of carbon tax when purchasing raw materials and fuels. Furthermore, Northam's carbon tax liability may increase substantially from 2026 onwards, when the carbon tax enters phase 2, in which carbon tax may be effectively imposed on electricity consumption. Northam's long-term strategy is based on energy efficiency and renewable sources rather than energy reduction, and this is continuously reviewed in order to optimise its effectiveness. Implementation of energy efficiency measures will allow Northam to be able to reduce its carbon tax liability by (a) reducing the amount of energy required to produce a unit of output, which in turn reduce the total energy consumed as our output value increases over time; and (b) reducing the company's tax liability by allowing the company to claim performance allowance benefits. Northam identifies and monitors areas of high energy utilisation, which assists with placing interventions to manage overall electricity costs. Energy intensive operations are shifted to off-peak periods to manage energy demand and reduce energy costs. Northam uses power factor correction equipment to reduce unnecessary energy demand.

Additionally, Northam is targeting between 60% and 80% of total electrical energy being generated by renewable energy sources. In FY2022, installed 1 MW solar carport project at Eland and a 1MW solar rooftop project at Booysendal, which started operating in the third quarter of 2022. In the pipeline, there is a 20MW solar power project expected to be complete in 2024 at Eland; at Zondereinde a 80MW solar power project to expected to be completed by the end of 2024; and two wind farms (both 140MW) are expected to be completed in 2025.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?
No

C11.3

(C11.3) Does your organization use an internal price on carbon?
No, and we do not currently anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers/clients
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Run an engagement campaign to educate suppliers about climate change

% of suppliers by number
1

% total procurement spend (direct and indirect)
25

% of supplier-related Scope 3 emissions as reported in C6.5
23

Rationale for the coverage of your engagement
Contractors play a key role in our business and in many instances provide services through direct on-site activities alongside our employees. Accordingly, it is important for contractors working at our operations to equally uphold our commitments and standards on environmental management, biodiversity and nature protection, climate change, water and tailings management, and energy.

Although all on-site contractors are contractually required to comply with all environmental regulations and Northam's environmental management systems (and in the case of some contractors, energy efficiency requirements), Northam undertakes various contractor engagement activities to ensure contractors take ownership for, and participate in, the various environmental and energy management initiatives and activities taking place on-site. For this reason, the coverage of the contractor engagement includes all contractors working at Northam operations.

More specifically, all on-site contractors undergo onboarding training annually and prior to entering the site. This onboarding process includes environmental and water awareness aspects. In addition, contractors attend regular internal SHEQ meetings and environmental 'talk topics', as well as external courses, seminars and workshops (paid for by Northam). Teams meet with contractors in daily, weekly and monthly meetings.

In FY22, our procurement team developed a responsible sourcing standard, which includes a section on environmental responsibility, including climate change, which has been distributed to all suppliers. ESG is now incorporated into new contracts in line with the standard. Northam's top 20 suppliers (by spend) have already had their ESG performance assessed via desktop review, and by May 2024, these suppliers will also have on-site ESG audits to follow (to complete by May 2024). ESG self-assessment questionnaires will also be used for continuous monitoring.

Impact of engagement, including measures of success
The engagement undertaken aims to ensure that contractors consider carbon and environmental impacts at the same standard as Northam's employees, during everyday decision-making and practices. The success of these engagement efforts is measured through monthly inspections and external audits of areas/infrastructure where contractors are working to ensure Northam's environmental management systems and policies (as well as ISO 140001 standards and environmental regulations) are upheld. These inspections assess, among others, energy savings measures implemented, switching off lights when areas are not in use, water recycling and savings initiatives, vegetation clearance, fauna and flora protection and land and water contamination.
The impact of our environment-related contractor engagement is considered successful if all internal and external inspections and audits raise no major/critical environmental issues in a reporting year. In the reporting year, no (i.e., zero) major/critical environmental issues were raised given 19 internal audits and 12 external audits amongst our three sites.
With the implementation of Northam's energy policy statement in the reporting year, future engagement success can also be qualitatively assessed by the extent with the energy targets and policy objectives are met, given the importance of contractor participation to ensure energy management initiatives is realized.

Comment
None

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Collaboration & innovation	Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number
100

% of customer - related Scope 3 emissions as reported in C6.5
67

Please explain the rationale for selecting this group of customers and scope of engagement
Our valued customers hold utmost significance to us. We primarily cater to industrial enterprises, specifically those operating in the automotive sector as catalyst and catalytic component suppliers, rather than the automobile manufacturers themselves. Additionally, we also serve as trusted precious metals refiners.

We have long-standing relationships with our customer base to whom we remain a reliable supplier. Over the past few years responsible souring has become a significant area of focus to our downstream customers and to this end we have developed a responsible sourcing procedure and committed towards a responsible mining assurance programme which will be aligned with Initiative for Responsible Mining Imitative (IRMA).

We actively engage with our refiners and other customers to address ESG (Environmental, Social, and Governance) matters, including climate change and water (the latter is an emerging topic). Our recent interactions have placed significant emphasis on climate change and responsible sourcing. We perform our engagements through the International PGM Association.

Northam actively participates in an industrial research and development initiative led by our refining partner and customer, Heraeus. This program is dedicated to advancing various sustainability-focused technologies, including the optimization of batteries for electric vehicles in the automotive sector. Our engagement with Heraeus takes place through telephonic and video conferencing sessions, as well as on-site visits.

Impact of engagement, including measures of success
Our customers have set ambitious GHG emission reduction targets which will reduce our scope 3 emissions.

The actions of our clients have a direct impact on our scope 3 emissions. Hence, our efforts to effectively engage with customers regarding climate-related matters are aimed at mitigating our downstream scope 3 emissions. We gauge our success by tracking the frequency of our interactions with customers.

Our refiners, Heraeus and Johnson Matthey, who we engage on a regular basis, have put ambitious decarbonization plans in place to achieve net zero. Additionally, BASF (one of our largest customers) engage with us on a biannual basis regarding our environmental and social initiatives and performance.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

Northam also undertakes climate-related engagement with various other partners in the value chain, including our host communities, the regional utility water supplier, customers, and developers of mining equipment on climate-related issues. These engagements enable the business to realise opportunities, mitigate risks and ensure the long-term sustainability of our business. We collaborate with mining technology developers to test energy efficient mining equipment and innovations in our mining processes. This focusses on a combination of investing in on-site renewable energy projects and energy efficiency initiatives, which will ultimately secure our energy supply, reduce energy use and costs, and reduce carbon emissions.

Recently Northam has started to engage with employees to help identify energy savings. No effort to improve energy intensity, prevent wastage or identify efficiency improvements will be effective without involving those who design, procure, construct and operate our facilities. A campaign to incentivise employees to help identify energy savings has been approved. This will be rolled out at operations as soon as effective electrical metering is in place so that savings can be quantified.

Examples of innovations that we have been testing include track-less mining equipment and more fuel-efficient machinery. In cases whether the technologies are found to be effective, Northam may make an investment in the technologies. Methods of engagement are both on-site, in meetings and through written correspondence. These engagements are considered successful when they enable Northam to gain access to get more efficient mining technologies. These engagements play an important role in ensuring our mining operations are as energy and carbon efficient as possible and that our energy targets and strategy is achieved. Each of Northam's operations have undertaken engagements with communities on climate-related matters.

At Zondereinde, we are engaging with the community on the implementation of an emission offset plan which may comprise supplying improved LPG cookstoves to replace the use of wood-fired stoves, and low emission water and space heating solutions. We also finance infrastructure projects within our communities to enhance their resilience to environmental impacts and rapid population growth (e.g., upgrading wastewater works, stormwater drainage, securing water supplies for schools through borehole installation). We engage with communities through in-person meetings with individuals and in forums.

We maintain active engagement with government bodies and state-owned water utilities to address water-related issues. Our operations regularly correspond with the Department of Water and Sanitation (DWS) through written communication, phone calls, and on-site inspections to discuss modifications or updates to our Integrated Water Use Licenses (IWULs). Additionally, we have quarterly engagements with our respective water suppliers: Booysendal with Lebalelo Water Use Association, Zondereinde with Magalies Water Board, and Eland with Hartebeespoort Irrigation Board. These engagements with government and regional suppliers are crucial for the continuous and sustainable operations of Northam. As climate change contributes to more frequent and severe drought conditions in our operating areas, our engagement with these stakeholders and partners becomes increasingly important. We also maintain regular interactions with our customers, including our precious metals refiners, to address ESG-related issues including climate change. Their transition programs towards low carbon emissions will impact our scope 3 emissions.

Northam is a proud member of the International Platinum Group Metals Association (IPA), a non-profit organization representing leading mining, production, and fabrication companies in the global platinum group metals (PGMs) industry. In 2013, the IPA commissioned a Life Cycle Assessment (LCA) that examines the cradle-to-gate profile and potential environmental impacts of primary and secondary PGM production. The LCA is regularly updated, with the most recent update conducted in May 2022. It covers environmental factors such as water consumption and greenhouse gas emissions for platinum, palladium, and rhodium. Northam participated in the LCA for the first time in 2021. In April 2023, the IPA kicked off its third industry wide LCA on platinum, palladium, rhodium, iridium and ruthenium, for primary and secondary production. Results will presumably be available in Q2/2024.

C12.2

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

No, but we plan to introduce climate-related requirements within the next two years

C12.3

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

Row 1

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

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?
No, but we plan to have one in the next two years

Attach commitment or position statement(s)
<Not Applicable>

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan
In Northam's 2021 Annual Integrated Report (2022) a commitment was made towards improved sustainability and the meeting the conventions of the Paris Agreement.

In addition, our public Environmental Policy Statement articulates Northam's commitment to continually improve our environmental management systems and performance to reduce any potential adverse impacts on the environment, including monitoring and recording our potential contribution to climate change, in an effort to mitigate its cumulative effect. More specifically, the policy commits Northam to identifying and implementing mitigation and adaptation mechanisms in response to potential climate change risks. These public commitments, as well as the information provided in our annual, public Sustainability and Integrated Reports, clarifies Northam's strategy and position on climate change to external stakeholders. In addition, it provides guidance and confidence to employees across business divisions and geographies to engage on a consistent manner on the topic of climate change.
All engagement activities are guided by the group's stakeholder management policy and plans. The social, ethics, human resources and transformation (SEHR&T) committee is ultimately responsible for the monitoring of the quality and effectiveness of our stakeholder engagements, on behalf of the board and in line with our policies, governance codes and best practice.

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

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

C12.3b

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

Trade association
Other, please specify (Minerals Council South Africa (MCSA))

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

Has your organization attempted to influence their position in the reporting year?
No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
MCSA is currently in the process of formulating its stance on climate change. However, several statements and reports have already been published, with the central theme of MCSA's position being decarbonization and a just energy transition. Specifically, MCSA acknowledges the scientific evidence behind climate change and advocates for a people-centric and pragmatic approach to achieving a just energy transition. This approach should be tailored to South Africa's specific development, economic, and energy security goals, as outlined in the country's latest Nationally Determined Contribution Report (2021) submitted to the United Nations Framework Convention on Climate Change (UNFCCC).MCSA embraces the concept of long-term carbon pricing and supports the implementation of various mechanisms to facilitate the transition towards a low carbon economy. However, it raises concerns about the potential negative impact of the carbon tax, as it may increase costs and potentially shrink the sector by eroding profitability. Additionally, MCSA aligns with the ambition of the Paris Climate Change Agreement to achieve net-zero greenhouse gas (GHG) emissions by 2050. Northam shares a consistent position with MCSA on these matters.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
10200000

Describe the aim of your organization's funding
Annual membership fees

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

C12.4

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

Publication
In mainstream reports

Status
Complete

Attach the document
northam-sustainaiblity-report-2022-v2.pdf

Page/Section reference
p. 9-11, 17-18, 21-23, 36-52, 57, 59-60, 86-91, 98-104

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment
Within the Sustainability Report, it is highlighted that water supply is a principle business risk to Northam and water conservation and security of supply are critical to business continuity. It states that all of our operations are located in water stressed regions. The Report also notes that these factors underpin our objective to minimise water use and the impact of withdrawing water from natural sources and third parties, while also maximizing water reuse and recycling.

C12.5

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

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

C15. Biodiversity

C15.1

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

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	The appropriate mining executives oversee environmental management, including biodiversity on a daily basis. The environmental team and the Safety, Health, Environmental, and Quality (SHEQ) management monitor and report on biodiversity compliance, possible impacts, and mitigation strategies. The operational teams are assisted by sustainability teams led by the sustainability executive. Environmental performance and progress toward objectives and targets are reported to the Executive Committee (Exco), and then to the Board through the Health, Safety, and Environment (HSE) Board subcommittee. Our CEO is the chairman of our Buttonshope Conservations Trust which is run independently from our operations and through which our conservation and off-set initiatives are run.	<Not Applicable>

C15.2

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

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Adoption of the mitigation hierarchy approach Other, please specify (Committed to an offset)	SDG

C15.3

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

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment
Yes

Value chain stage(s) covered
Direct operations

Portfolio activity
<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity
TNFD – Taskforce on Nature-related Financial Disclosures

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)
Northam recently participated in the TNFD Pilot Programme. As mining and metals are considered one of the priority non-financial thematic sectors for the TNFD, Northam as one of only two African mining companies are participating with the ICMM in piloting the TNFD framework. As part of the TNFD guidance, this included an assessment of the natural capital dependencies and impacts using the ENCORE tool developed by the NCFA in partnership with UNEP-WCMC. High and medium potential impacts on biodiversity identified through ENCORE, include:
- Changes in local species richness. Specialist or other native plant species may experience decreased seed dispersal, resulting in species loss while pioneer or invasive species seed dispersal may increase, resulting in outcompeting / displacement of native species.
- Loss of vegetation cover could affect biological, mechanical or chemical weathering and erosion processes, resulting in ecosystem service loss. Loss of terrestrial vegetation could also contribute to reduced evapotranspiration, resulting in local / regional climate alteration.
- Loss of faunal species due to habitat loss could affect seed dispersal and / or pollination processes resulting in ecosystem service loss.
- Changes in water quality or quantity as a result of pollution or physical alteration of water courses could lead to changes in habitat health / complexity; plant community or health; and decreases / disappearances of biotic communities.
- Changes in vegetation cover along water courses could result in physical alteration of water courses, reducing flood attenuation capacity.
- Pollution of soils / changes to soil profiles could lead to alteration of soil biological / micro-organism communities, populations and function, changing the soil environment and modifying ecosystem processes and services.
- Habitat degradation or disturbance could decrease pollution filtration and / or sequestration, including ability of vegetation to perform Phyto-remediation.
It should be noted that, in terms of environmental legislation, Northam is also required to undertake detailed environmental impact assessments for all new activities at their operations. As part of this process, specialist studies are conducted to identify potential local biodiversity impacts as well as developing remediation measures to reduce the significance of the any potential natural capital impacts.

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment
No, but we plan to within the next two years

Value chain stage(s) covered
<Not Applicable>

Portfolio activity
<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity
<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)
<Not Applicable>

C15.4

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

C15.4a

(C15.4a) Provide details of your organization's activities in the reporting year located in or near to biodiversity -sensitive areas.

Classification of biodiversity -sensitive area
Other biodiversity sensitive area, please specify (Critical Biodiversity Area)

Country/area
South Africa

Name of the biodiversity-sensitive area
Sekhukhune Mountainlands and Dullstroom Plateau Grasslands

Proximity
Up to 10 km

Briefly describe your organization's activities in the reporting year located in or near to the selected area
The Booysendal mine stretches across Limpopo and Mpumalanga provinces and are situated within the Sekhukhuneland Centre of Plant Endemism (SCPE)and Lydenburg Centre of Plant Endemism (LCPE) in the Groot Dwarsrivier Valley. The vast majority of the area consists of untransformed grassland and bushveld vegetation grazed by wildlife and domestic livestock. Much of this landscape is in a near-pristine state. The Booysendal property encompasses several ecologically sensitive areas, some of which are of critical biodiversity importance. These are prioritised by conservation authorities and some areas are classified as irreplaceable. The Davel Private Nature Reserve (owned by the Buttonshope Trust as name to be changed to De Berg Nature Reserve), Veloren Valei Nature Reserve and Houtenbek Private Nature Reserve occur approximately 9 km, 15 km, and 21 km south of the Booysendal operations respectively.

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity
Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area
Biodiversity offsets

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented
The following impacts from the mine posing a risk to the biodiversity of the study area:
• The loss and/or degradation or conversion of land, marine and other aquatic habitats (removal of natural vegetation and destruction of habitat) and associated loss of species.
• Significant alteration of ecological processes, sometimes irreversibly (e.g., the breaching of aquitards, changes in the water table, disruption of species movement, patterns, disruption of the local hydrological cycle and permanent alteration of flow).
• Pollution (including noise and light pollution) and migration of pollutants in air, soils, surface water, groundwater or the ocean.
• Introduction of invasive alien species.
• Changes in demand for, or consumption of, natural resources (either directly or through indirect or induced changes as a consequence of mining activities).
In terms of mitigation measures, Booysendal's biodiversity actions are defined in an approved environmental management plan compiled by independent specialists. Environmental action and initiatives are the responsibility of the mining executive supported by the operational committee. Compliance and progress are monitored and reported by the environmental department with oversight from the sustainability executive. Compliance is assessed regularly by independent auditors. Based on Booysendal's baseline Biodiversity Management Plan (2021), recommendations included a focus of effort on untransformed area with high biodiversity conservation value, the conduct of biodiversity-related follow-up studies and a monitoring programme, the development of a programme to promote the sustainable utilization of natural resources to benefit the local community, engagement with the appropriate local government institutions and NGOs to develop and implement and Environmental Education Programme, capacity building amongst relevant mine personnel, landowners and informal tenants.

C15.5

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

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

C15.6

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

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Other, please specify (Land use; Flora and fauna populations; Alien vegetation removed; biodiversity off-sets)

C15.7

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

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Governance	Sustainability Report 2022, pages 53-58 northam-sustainaiblity-report-2022-v2.pdf

C16. Signoff

C-FI

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

C16.1

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

	Job title	Corresponding job category
Row 1	Executive: Sustainability	Other C-Suite Officer

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms