

## C0. Introduction

---

### C0.1

---

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

Murray & Roberts is a multinational specialist engineering and construction services company that applies its project life cycle capabilities to optimise client's fixed capital investment. The Group achieves this by focusing its expertise and capacity on delivering sustainable project engineering, procurement, construction, commissioning, operations, and maintenance solutions. We have created employment, developed skills, installed infrastructure, delivered services, applied technology, and built capacity for 120 years, making a significant contribution to sustainable socio-economic development globally. The Group delivers its capabilities into the mining, water, and specialised infrastructure market sectors, through two global sector platforms:

- The Mining platform operates globally, and its service offering spans underground and material logistics in global metals and minerals markets.
- The Power, Industrial & Water platform operates predominantly in South Africa and sub-Saharan Africa. Its service offering includes detailed engineering, procurement, construction, commissioning, and maintenance work.

For this reporting period, Murray & Roberts have incorporated environmental data from the Energy, Resources & Infrastructure platform, headquartered in Perth and operating under the Clough brand, however in late 2022, Murray & Roberts sold 100% of its shareholding in Clough Limited to Webuild.

Murray & Roberts is headquartered in Johannesburg, South Africa, and listed on the Johannesburg Stock Exchange (JSE). We transferred our listing on the JSE from Heavy Construction to Diversified Industrials on 20 March 2017 and a year later, the FTSE Russell transferred Murray & Roberts' listing to the Engineering and Contracting Services subsector, confirming the Group's expertise and strategic repositioning. Our offices are located in:

1. Africa: South Africa, Zambia, and Ghana
2. Asia: Mongolia;
3. Europe: Scotland; and
4. North America: USA and Canada

Murray & Roberts enables and optimises fixed capital formation that corporations, governments, and institutions commit to the advancement of sustainable human development. The Group's purpose-led business model connects our capabilities to the investment our clients make in infrastructure that advances sustainable human development. Through the critical infrastructure we design, construct, maintain and operate, we empower global communities. The Group's Purpose makes sustainable human development central to our governance approach, our competitiveness as a contractor and employer of choice, and our commitments as an ethical corporate citizen. As the Group moves to realise greater opportunities for growth, profitability and value creation, our strategic choices will continue to be framed by our Purpose, inspired by our Vision, and guided by our Values. Our competitiveness as a contractor and an employer, and our ability to secure optimal value from our projects within manageable risk, rely on the consistent application of Engineered Excellence. Engineered Excellence defines our management approach at every level of the organisation. Vested in careful and conscious planning, its application demands leadership commitment, shared learning, and continuous improvement. In our responses to challenging operating contexts, in making unavoidable trade-offs and sequencing our priorities, it aims to remove chance from our pursuit of the outcomes our stakeholders expect; it therefore fortifies our aspiration to be a contractor and an employer of choice. This operating philosophy, which together with our Values define the Group's culture, brings discipline and rigour to every decision and action. It is embedded within our businesses through policies and management systems, including the Group Sustainability Framework, our HSE framework, the Group Statement of Business Principles, and the Group Ethics Framework. These frameworks set clear expectations for our employees, platforms and business partners, and their application is tightly governed throughout the Group.

### 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.**

Australia

Canada

South Africa

United States of America

Zambia

**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

**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, a Ticker symbol	MUR
Yes, an ISIN code	ZAE000073441

**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
Chief Executive Officer (CEO)	<p>The responsibility for climate-related issues lies with the Group Chief Executive (CEO) and our members of the Murray &amp; Roberts Holdings Limited (MRHL) Board, who possess the highest decision-making authority within the company. To assist them in their role, our standing Health, Safety, and Environment (HSE) committee is established to review and address quarterly HSE reports and other significant matters related to climate change. At a level below the MRHL Board, the Group Director for Health, Safety, Environment (HSE), and Risk holds the highest level of functional responsibility for climate-related issues. This position, which reports directly to the CEO and the MRHL Board, is part of the C-suite. Therefore, the CEO bears the overarching responsibility for environmental matters, including climate change. Environmental key performance indicators (KPIs) are incorporated into the CEO's performance contract.</p> <p>A significant decision made by the CEO and Board during FY2021 was to evaluate the Group's Sustainability Framework, aligning it with evolving stakeholder expectations. Additionally, an independent organization named CEN-ESG, based in the United Kingdom, was engaged to assess, and rate the Group's environmental (including extensive climate reporting, governance, risk, and target aspects), social, and governance performance in terms of scope and disclosure to stakeholders. The Group is pleased with the favourable outcome of this review, which serves as a benchmark for enhancing its ESG performance.</p> <p>In FY2022, our Board developed and released a Group Sustainability Statement that outlines our principles and approach to sustainability, given its purpose of supporting clients' sustainable human development through fixed capital investments.</p> <p>Furthermore, in FY2022, the Group's Health, Safety &amp; Environment Policy and Climate Change Position Statement was updated. The latter has been expanded to clarify the company's stance on participating in fossil-fuel projects and to explain how its purpose, strategy, and operational sectors align with its position on climate change.</p>

**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	<p>Reviewing and guiding annual budgets</p> <p>Overseeing major capital expenditures</p> <p>Overseeing acquisitions, mergers, and divestitures</p> <p>Reviewing and guiding strategy</p>	<Not Applicable>	<p>The Group Director: Health, Safety, Environment (HSE), and Risk is responsible for compiling a quarterly HSE report, which includes updates on water, climate, and waste performance, as well as any other significant matters pertaining to water and climate change as they arise. This report is presented to both the Board and HSE Committee, a committee of the Murray &amp; Roberts Holdings Limited (MRHL) Board. The HSE Committee holds the highest level of direct responsibility and oversight for climate change.</p> <p>In addition to regular reporting on climate change, water, and waste statistics, each quarterly report may vary slightly to provide feedback on various governance mechanisms related to climate change.</p> <p>Our board's oversight on climate-related issues ensures that relevant executives within the company are regularly and accurately informed about the most crucial risks and opportunities. The responsibility for environmental management is delegated throughout our organization. Climate change is also included in the agenda of the executive committee's quarterly risk reviews and the annual business planning cycle.</p> <p>During the reporting year FY2022, our board formulated and released a Group Sustainability Statement. This statement defines our principles and approach to sustainability, taking into account its purpose of facilitating our clients' investments in fixed capital that contribute to the advancement of sustainable human development. Additionally, the Group's Health, Safety &amp; Environment Policy and Climate Change Position Statement were updated. The Climate Change Position Statement now encompasses our stance on participating in fossil-fuel projects, while also providing an explanation of how the purpose, strategy, and operational sectors align with our position on climate change.</p>

**C1.1d**

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	<p>Board members' competence on climate-related issues is assessed based on completed training on climate-related and ESG topics and through independent ESG assessments to determine the effectiveness of the Board in ensuring that strategic decision-making considers ESG imperatives in line with stakeholder expectations, global accountability frameworks (such as TCFD and SDG), our public climate change and sustainability position statements, and risk and environmental management policies.</p> <p>Continuous training is made available to all directors as needed and requested. We consider Board training to be an important mechanism for enhancing the water and environment-related competencies of all board members, executives and senior management.</p>	<Not Applicable>	<Not Applicable>

**C1.2**

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

**Position or committee**

Other C-Suite Officer, please specify (Director of Group Health, Safety, Environment and Risk )

**Climate-related responsibilities of this position**

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**

Quarterly

**Please explain**

The Group HSE director is the highest functional management-level position for climate-related issues. This role reports directly to the CEO and the MRHL Board HSE Committee. Further, the director compiles and presents a quarterly HSE report to the board. The HSE report covers quarterly water, climate and waste results, and any other important matters relating to climate and water as and when they arise. The director also leads the compilation of the Annual Sustainability Report which is reviewed and approved by the Social & Ethics Committee of the Board.

---

**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	None.

**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 – set figure

**Performance indicator(s)**

Other (please specify) (Ensuring environmental management in accordance with standards)

**Incentive plan(s) this incentive is linked to**

Short-Term Incentive Plan

**Further details of incentive(s)**

70% of the award is delivered in cash and 30% in deferred forfeitable shares or cash under the Long-Term Initiative schemes.

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

Short-term incentives (STI) are linked to ESG performance through the short-term incentive plan for executives. STI targets are set annually and consider business plans, strategic goals

and prevailing market conditions. STI awards are based on annual performance against a

balanced scorecard of metrics. These metrics include a risk key indicator of the extent to which risk management and environmental objectives are achieved.

---

**Entitled to incentive**

Other C-Suite Officer

**Type of incentive**

Monetary reward

**Incentive(s)**

Bonus – set figure

Shares

**Performance indicator(s)**

Other (please specify) (Reduction of environmental incidents. Efficient use of resources. Implementation of environmental improvement initiatives, environmental awareness and attainment of targets which are linked to performance bonuses.)

**Incentive plan(s) this incentive is linked to**

Both Short-Term and Long-Term Incentive Plan

**Further details of incentive(s)**

70% of the award is delivered in cash and 30% in deferred forfeitable shares or cash under the Long-Term Initiative schemes.

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

Short-term incentives (STI) are linked to ESG performance through the short-term incentive plan for executives. STI targets are set annually and consider business plans, strategic goals

and prevailing market conditions. STI awards are based on annual performance against a

balanced scorecard of metrics. These metrics include a key indicator of the extent to which risk management and environmental objectives are achieved.

---

## 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	3	The time horizon is specific to climate change risks and opportunities and not aligned to other business practice time horizons.
Medium-term	3	6	The time horizon is specific to climate change risks and opportunities and not aligned to other business practice time horizons.
Long-term	6	10	The time horizon is specific to climate change risks and opportunities and not aligned to other business practice time horizons.

---

### C2.1b

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

The substantive financial impact of climate-related risks is determined using Murray & Roberts' group risk management methodology. A substantive impact would be regarded as a major or critical financial consequence, which prevents the achievement of the long-term sustainability and value creation objectives of our business, and/or prevents the generation of profits within the business platforms. The threshold indicator used to indicate a substantive impact is a financial loss in profits of ZAR +147.9 million/USD + 10 million. These risks can be due to impacts on our direct operations or from impacts in the supply chain. The main acute climate change risks include project disruptions due to extreme and unpredictable weather conditions, including floods and extreme weather events, such as cyclones, wildfires etc. These events would lead to operational delays and damage to infrastructure. An example of a substantive impact would be losses caused from increased intensity and frequency of weather-related events on our projects, such as floods or cyclones.

Climate change-induced changes such as changing rainfall patterns and increasing temperatures (resulting in heat stress) are also relevant for projects in regions that experience these events. This risk is considered to have an impact on our operations, and the impact is expected to be exacerbated into the future. Impacts vary regionally but significant effects are anticipated where reduced precipitation coincides with increased temperatures. Although these changes may not lead to substantive business impacts, Murray & Roberts recognises that more severe climate change-induced impacts have the potential to damage project infrastructure or equipment, delay projects, lead to severe health and safety risks or even the loss of lives.

As a case in point, Opti Power Projects in South Africa experienced project delays and damages to soil conditions at its Nseleni, Mtubatuba and Meerkat SKA projects due to above average and non-seasonal rainfall events. Another significant example includes RUC Cementation Mining which experienced supply chain disruptions which caused delays on the Tanami and Penny projects. In Southern Australia, a one in 200-year rainfall event resulted in road and rail links between Eastern and Western Australia being cut off for 25 days in January 2022, causing additional supply chain disruptions for RUC and Cementation.

**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  
Upstream  
Downstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

More than once a year

**Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

**Description of process**

Established by the Board, our enterprise-wide risk management framework guides us in mitigating threats to our business and exploiting business opportunities. The Board approves the Group's risk appetite and risk tolerance, and monitors risk exposures which are regularly reviewed and updated. It has established clear governance structures for managing risk and opportunities across the organisation, thereby ensuring that it receives appropriate attention. The Group risk management framework sets clear roles and responsibilities and provides management teams with a structured and coordinated approach to identify, assess, address, monitor, communicate and report the Group's risks and opportunities. We implement preventative and mitigative controls to reduce the likelihood and consequence of identified risks and manage potential impacts.

Risks are assessed quarterly and considered three to six years into the future.

Project disruption risks and risks relating to changing rainfall patterns and increasing temperatures are considered in the project planning phase. New risks experienced on projects are elevated monthly to business platform level and quarterly to the risk management committee.

The risks are evaluated as a hurdle to delivering contracted scopes against cost, time, and technical performance targets, while maintaining ESG performance at acceptable and expected levels. Risk management activities include risk tolerance filters, lessons learnt registers, contracting principles, project reviews and performance monitoring. At the project level, risk assessments for bid preparation and project implementation are used to determine risk areas and opportunities where effective risk management can be turned into an advantage. Through this process, climate change-related risks have been identified. For example, on the transition risk / opportunity side we have identified that proactive mining clients are transitioning towards low carbon products and services (e.g., designing operations to be energy and water efficient, making use of lower carbon energy sources, and designing operations to be resilient to the acute and chronic physical impacts of climate change, etc.). We have identified these developments as opportunities aligned to our New Strategic Future business strategy and as a risk if we do not offer these new technologies to clients.

In line with our position on climate change, we will limit our participation to metallurgical coal projects outside South Africa, until such time that sustainable alternatives for large scale steel production are available. In addition, we will only consider participation in thermal coal projects which are earmarked to supply coal to power stations in South Africa, for as long as the country's economy and its electricity generating capacity depend on thermal coal. Whilst we have committed to continue to grow our service offerings in the cleaner energy sector, the reality is that South Africa still relies mainly on coal-fired power for electricity supply, as cleaner forms of energy remain insufficient to meet base-load demand.

The mining platform scenario analysis has enabled us to identify key climate change drivers, risks and opportunities associated with mining which may impact our business going forward in the context of our reputation, the market, policy and legislation, and technology. For example, in the electricity generation space, coal mining activities are expected to be surpassed by mining for commodities such as copper and nickel for renewable electrification and battery energy storage systems respectively. Based on this analysis, the Mining platform has begun quantifying the key revenue and financial impacts associated with each of the scenarios given their implications for the future commodity market, our order book and our clients' climate commitments and climate scenario outlooks. Further work will include broadening the scenario analysis process, testing business strategy against the scenarios, and developing signpost metrics as well as expanding the analysis to other business platforms.

On the physical risk side, we have been impacted by significant weather events at several projects in the last three years (e.g., cyclones, floods and fires have caused time and supply chain impacts to our projects). These risks are thus identified and managed through the project risk process. The climate change scenario analysis work has also highlighted the importance of managing physical impacts from climate change in the mining sector.

---

**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	<p>Current and future regulatory risks are considered in the risk management process. South Africa has implemented the Carbon Tax Act, which has placed a tax on qualifying GHG emissions from June 2019. For stationary combustion activities, a threshold of 10 MW (th) input capacity has been set, meaning that organizations that control stationary combustion equipment with a cumulative capacity exceeding this threshold are subject to the tax. We evaluate our total installed capacity on an annual basis and have not exceeded the carbon tax threshold since its inception. Our installed capacity has reached 8 MW (th) this year, indicating that we may become subject to the carbon tax in the next three years.</p> <p>However, our stationary combustion activities consist only of diesel combustion in generators. In South Africa, a carbon fuel levy has been implemented on diesel &amp; petrol, and these GHG emissions are effectively taxed at the pump already. Diesel and petrol GHG emissions are therefore added and subtracted from the carbon tax calculation. As a result, should we become subject to the South African Carbon Tax Act, there would be no additional tax, but there will be a reporting requirement which will cost additional management time to service on an annual basis.</p> <p>Additionally, the requirement for reporting in terms of South Africa's National Greenhouse Gas Emissions Reporting regulations are the same as for the carbon tax. We would therefore be required to report our GHG emissions to the Department of Forestry, Fisheries &amp; the Environment as well as to the South African Revenue Service in terms of the carbon tax. As we already quantify and report our scope 1 GHG emissions on an annual basis, we anticipate being able to service these reporting requirements.</p> <p>The total GHG emissions at our Australian operations were 6047 tCO2e in the reporting year, this is well below the threshold (100 000 tCO2e prescribed by the safeguard mechanism) and we do not anticipate being subject to the safeguard mechanism in the near future.</p> <p>The carbon pricing regulations in Canada, the UK and California do not apply to our businesses as we do not own any industrial facilities. Nevertheless, we monitor emerging climate and carbon regulations in our operational regions to ensure any potential associated risks are identified in a timely manner. Even though our emissions do not trigger reporting requirements, we continue to monitor existing regulations to lower our risk of non-compliance.</p>
Emerging regulation	Relevant, always included	<p>South Africa's carbon tax imposes tax liabilities on companies with a thermal input capacity of 10MW and above. While we are not directly impacted, the carbon tax on liquid fuels (petrol and diesel) is levied at source, resulting in increased fuel prices. Phase one of the carbon tax has been extended to 2026; thereafter the carbon tax rate is expected to increase and allowances will be phased out. This may result in additional increases to electricity and fuel costs, driving up our operating costs. South Africa's Climate Change Bill, once enacted, will assign mandatory carbon budgets to qualifying entities, with penalties incurred when budgets are exceeded. Carbon budgets will likely apply to sectors and entities in the cement manufacturing, mining, petrochemicals and electricity generation industries, which currently are required to submit pollution prevention plans. We do not expect to have a mandatory carbon budget in the near future; however, budgets may apply to some of our clients and pass-through costs may arise from suppliers in impacted industries.</p> <p>Emerging climate and carbon regulations in our operational regions are monitored on a quarterly basis to ensure any potential associated risks are identified in a timely manner.</p>
Technology	Relevant, always included	<p>Murray &amp; Roberts considers technology both as an opportunity and a risk. There are many new innovative technologies particularly in the mining sector that are assisting clients to reduce their operations' carbon and water intensities. For example, we have identified that proactive mining clients are transitioning towards low carbon products and services (e.g., designing operations to be energy and water efficient, making use of lower carbon energy sources, and designing operations to be resilient to the acute and chronic physical impacts of climate change, etc).</p> <p>We have identified these developments as opportunities aligned to our business strategy and also as a risk if we do not offer these new technologies to clients. Additionally, the impacts of climate change have exacerbated water scarcity in semi-arid regions such as South Africa. Given these environmental concerns and the need to reuse wastewater, a number of water-saving projects have been implemented in the reporting year. For example, the Hope Bay project in Canada uses an underground water system where the water is re-circulated and re-used.</p> <p>The Mining platform uses digital technology to improve the energy efficiency of fixed assets and mobile mining plant operations in underground mines. Battery-powered equipment is used at a number of client sites to reduce emissions and provide a healthier work environment. On-demand ventilation systems and sensors automatically adjust ventilation in underground locations to where it is needed. This can reduce energy consumption by up to 20%.</p> <p>Other technologies that we consider are the Terra Nova Technologies' dry stack tailings systems to replace traditional tailings dams and avoid the major HSE risks associated with them. This methodology reduces water consumption and land impact.</p>
Legal	Not relevant, explanation provided	<p>Legal risks, defined by Murray &amp; Roberts as the risk of litigation around climate change, are not relevant currently. With the sale of carbon intensive business units a few years ago, our GHG and water footprint has reduced substantially which has also significantly reduced our exposure to climate change legal risks. As a result, our exposure to legal risks is not currently considered significant enough to address in our risk management processes.</p>
Market	Relevant, always included	<p>As existing technologies get substituted or adapted in the transition to a lower carbon economy, Murray &amp; Roberts expects market changes to occur. Materials previously sought, such as coal, may no longer attract any development investment, whilst materials used in the "green economy" become more sought after. This is an important market risk and opportunity to consider for both our Mining platform and our Power, Industrial and Water platform. Further, the market may demand changes to the operational or design element of projects as clients start considering climate change at their sites and operations. This may increase client expectations to deliver projects using new, low carbon machinery or power sources, and other climate-related considerations. Murray &amp; Roberts may additionally be challenged with the increased risk of abandoned projects, as has been seen globally in the development of coal mines and power plants. As the strength and onset of other drivers increase, projects may become unviable in increasingly shortened timespans due to legislation, social pressure, or technology breakthroughs. Such projects may then be abandoned during implementation by project developers, and Murray &amp; Roberts may experience financial disruptions associated in these cases. This may also result in increased insurance costs for Murray &amp; Roberts.</p> <p>As such, market-related risks may have an impact in the business in medium- to long-term.</p>
Reputation	Relevant, always included	<p>Our reputation, and the trust it instils, is built on our Values and is critical to our long-term resilience, hence reputational impacts are considered in the risk assessment process. Our reputation as a credible global operator and respected multinational rests on the value we create for our employees, clients, and owners, and for local companies, host communities and countries in which we work. Failure to manage climate-related risks could result in major incidents that may destroy this value and accordingly harm our reputation and prospects. One of the aspects considered with reputational risk includes ensuring our reputation as a profitable, well-governed, ethical, and responsible multinational organisation is maintained. For this reason, harmonising ESG and climate imperatives with commercial opportunities is seen as an ethical obligation for the Group. In addition, it enhances our ability to attract the best talent and access to capital. The Group recognises the reputational impacts associated with weak management of climate risks, including the funding, and insuring of fossil fuels projects, and exposure to reputational risks of 'dirty' commodities. Accordingly, we published a Group-wide climate change position statement to clearly communicate our commitment to addressing the climate change challenge. In addition, it provides transparency on our position to undertaking coal projects. In line with our position on climate change, we will limit our participation to metallurgical coal projects outside South Africa, until such time that sustainable alternatives for large scale steel production are available. In addition, we will only consider participation in thermal coal projects which are earmarked to supply coal to power stations in South Africa, for as long as the country's economy and its electricity generating capacity depend on thermal coal.</p>
Acute physical	Relevant, always included	<p>Our main climate change risks include project disruptions due to extreme and unpredictable weather conditions, including fires, floods, and storm surges. These risks are considered in the project planning phase for projects being carried out in regions that are susceptible to weather extremes. Climate change-induced changes such as changing rainfall patterns and increasing temperatures (resulting in heat stress) are also relevant for projects in regions that experience these events. This risk is considered to impact our operations, and the impact is expected to be exacerbated into the future. Impacts vary regionally but significant effects are anticipated where reduced precipitation coincides with increased temperatures. Although these changes may not lead to substantive business impacts, Murray &amp; Roberts recognizes that more severe climate change-induced impacts have the potential to damage project infrastructure or equipment, delay projects, lead to severe health and safety risks or even the loss of lives. Lastly, we exclude in our contracting terms all unacceptable risks or those that we believe cannot be mitigated to within our risk tolerance levels.</p>
Chronic physical	Relevant, always included	<p>Climate change-induced changes such as changing rainfall patterns and increasing temperatures (resulting in heat stress) are considered for projects in regions that experience these events. This risk is considered to have impacts on Murray &amp; Roberts' facilities and projects, and the impact is expected to be exacerbated into the future. Impacts will vary regionally but significant effects are anticipated where reduced precipitation coincides with increased temperatures. This may result in reduced water availability and water stress in regions in which Murray &amp; Roberts operates that are currently water-constrained such as South Africa and Australia.</p>

**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) 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**

Current regulation	Carbon pricing mechanisms
--------------------	---------------------------

**Primary potential financial impact**

Increased indirect (operating) costs

**Climate risk type mapped to traditional financial services industry risk classification**

&lt;Not Applicable&gt;

**Company-specific description**

In South Africa, the Carbon Tax Act was signed into law in May 2019 with the first stages of the tax effective from June 2019. The headline carbon tax is R144 per tonne of CO<sub>2</sub>e for emissions above the tax-free threshold. There are several transitional tax-free allowances available, implying an initial effective carbon tax rate range as low as R6 to R48 per ton CO<sub>2</sub>e in 2019. In the first phase, the carbon tax impacts industrial applications and industry with the stationary combustion of fossil fuels in generators with an installed thermal capacity of 10MW.

The carbon tax is not applicable for primary electricity production or consumption in the first phase but will be considered for later phases. Furthermore, carbon tax on liquid fuels (petrol and diesel) is imposed at source, as an addition to the current fuel taxes. Murray & Roberts recognises the potential effects on its operations through a direct tax and possible increases in electricity and fuel prices due to passthrough costs. Currently, our facilities do not exceed the phase 1 facility level thresholds of 10MW, so the short-term exposure is not significant. However, it is anticipated that the carbon tax thresholds and requirements will become more stringent in the future as phase two is implemented (i.e., after 2026).

National Treasury will be reviewing the interaction between the carbon tax and the electricity generation levy at the beginning of the second phase of the carbon tax to determine whether any carbon tax will be applied to fossil-fuel based grid electricity consumption. Hence, uncertainty around the potential company impacts from 2026 remains high.

Other operations where carbon pricing is of relevance are Alberta, Ontario and British Columbia in Canada, California in the USA, and Scotland in the United Kingdom. However, Murray & Roberts does not own any industrial facilities and provides engineering and construction services to clients which typically own the operation and procure all fuels, as per the current strategy and business model. To date, this has precluded Murray & Roberts from carbon pricing liabilities. The Group does not foresee this changing in the future as we do not foresee the acquisition of any industrial facilities or a fundamental change in our business model. Nevertheless, the various platforms and the Group head office continually tracks and monitors any developments on carbon pricing at our operating locations.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

&lt;Not Applicable&gt;

**Potential financial impact figure – minimum (currency)**

275720

**Potential financial impact figure – maximum (currency)**

1102881

**Explanation of financial impact figure**

South Africa: Given that the tax is only imposed on stationary combustion above a thermal capacity of 10MW and that we do not trigger this threshold, the direct financial implications are zero for the first phase. We are aware that there are indirect costs through fuel increases (due to the carbon tax). As the tax moves from phase 1 to phase 2 in 2026 we foresee a more substantial financial impact if there are electricity and direct fuel implications. We have provided an indicative estimate of the possible costs on our South African operations, assuming a pass-through cost on electricity of R182 300 – R730 000 and a carbon tax of R93 000 – R374 000. The range provided is a best- and worst-case scenario, assuming a minimum and maximum effective rate of R15 and R60, increasing at CPI + 2% annually with an assumed CPI of 6.9%. The combined electricity pass through cost and direct carbon tax cost is estimated to be R0.3m – R1.2m

**Cost of response to risk**

22150000

**Description of response and explanation of cost calculation**

Murray & Roberts is prepared for the carbon tax through improved data collection and reporting systems and ongoing initiatives to reduce the emissions generated at our South African facilities.

Projects to improve energy efficiency and reduce electricity consumption at our facilities have cost the Group approximately R150 000 in the reporting year. In addition, a solar PV farm has been installed at Murray & Roberts Cementation's Bentley Park facility in Carletonville. The cost of this system is R22 000 000. Accordingly, the total cost of response is the sum of the energy efficiency and solar initiatives i.e., R22 150 000.

**Comment**

None.

---

**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

Acute physical	Other, please specify (Wildfires, flooding, heavy precipitation and hurricanes)
----------------	---

**Primary potential financial impact**

Increased indirect (operating) costs

**Climate risk type mapped to traditional financial services industry risk classification**

&lt;Not Applicable&gt;

**Company-specific description**

There is increasing pressure on companies to address the physical risks from climate change. Climate change is expected to result in a significant shift in weather patterns leading to rising temperature, increased storm and flood events and droughts. Infrastructural damage from increased severity of storm events may become more common in the future. The physical impacts of climate change represent a risk to the projects that we help design and manage. This has been emphasized by various project impacts reported in the past few years.

Climate change-induced changes such as changing rainfall patterns and increasing temperatures (resulting in heat stress) are also relevant for projects in regions that experience these events. This risk is considered to have an impact on our operations, and the impact is expected to be exacerbated into the future. Impacts vary regionally but significant effects are anticipated where reduced precipitation coincides with increased temperatures. Although these changes may not lead to substantive business impacts, we recognize that more severe climate change-induced impacts have the potential to damage project infrastructure or equipment, delay projects, lead to severe health and safety breaches or even the loss of lives.

The most severe impacts occurred in FY2020, where the Snowy Project and a Coal Seam Gas Project in Australia were impacted firstly by fires and then by floods.

Record-breaking temperatures and months of severe drought fueled a series of massive bushfires across Australia. The Snowy Hydro Project lost two vehicles and accommodation for staff from the bush fire and there was some minor container damage. Shortly thereafter, severe floods hit parts of Australia. The Snowy Project was delayed by approximately 20 days due to both fire and floods and the Coal Seam project delayed by 30 days due to the flood.

Recently, Opti Power Projects in South Africa experienced project delays and damages to soil conditions at the Nseleni, Mtubatuba and Meerkat SKA projects due to above average and non-seasonal rainfall events. Another significant example includes RUC Cementation Mining which experienced supply chain disruptions which caused delays on the Tanami and Penny projects. In Southern Australia, a one in 200-year rainfall event resulted in road and rail links between Eastern and Western Australia being cut off for 25 days in January 2022, causing additional supply chain disruptions for RUC and Cementation.

**Time horizon**

Long-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

39000000

**Potential financial impact figure – minimum (currency)**

&lt;Not Applicable&gt;

**Potential financial impact figure – maximum (currency)**

&lt;Not Applicable&gt;

**Explanation of financial impact figure**

The financial implications of the loss in production time at the Coal Gas Seam project in Australia amounted to approximately R38 million due to the 30-day delay on the critical path. An additional R1 million in damages from the fire at the Snowy project were incurred due to vehicle and container loss/damage and hence the total financial impact from physical impacts to projects was R39 million.

**Cost of response to risk**

182000

**Description of response and explanation of cost calculation**

Weather event downtime budgets are devised for our projects to manage any chance of a financial impact associated with typhoons/ cyclones. These budgets are based on projection data from the Australian Bureau of Meteorology. Therefore, there is no additional cost associated with this; it is part of general project management undertaken for each project. Additionally, the client bears the financial impact of the loss in man hours should there be adverse weather effects.

In order to obtain a better understanding of physical climate risks, Murray & Roberts developed a climate-change scenario analysis for the Mining platform. The scenario analysis work provided both transition and physical risks scenarios to assess the impacts of acute or chronic physical change related climate change such as extreme weather events. The total cost to develop the scenario analysis was R182 000. Further, we are considering developing a climate change scenario analysis for our PIW Platform in the next reporting year.

**Comment**

None.

---

**Identifier**

Risk 3

**Where in the value chain does the risk driver occur?**

Upstream

## Risk type & Primary climate-related risk driver

Reputation	Shifts in consumer preferences
------------	--------------------------------

### Primary potential financial impact

Decreased revenues due to reduced demand for products and services

### Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

### Company-specific description

There is increasing pressure on companies to address the regulatory risks from climate change. Regulatory risks are going to lead to an increased cost in the use of fossil-fuel based inputs. Carbon intensive industries will be impacted the most from the carbon pricing mechanisms (such as the carbon tax).

Murray & Roberts has considered the impact of these risks on the mining industry as a substantial portion of our revenue stems from our Mining platform. Global mining trends show that certain proactive mining clients are transitioning towards low carbon products and services (e.g., designing operations to be energy and water efficient, making use of lower carbon energy sources, and designing operations to be resilient to the acute and chronic physical impacts of climate change, etc.). Murray & Roberts has therefore identified a risk of not transitioning with our clientele in offering low carbon products and that this may result in lost revenue in the future.

In addition, Murray & Roberts has identified a risk of being associated with projects that have a large carbon footprint, in particular, coal mining and coal power projects. These specific risks and opportunities have been discussed at the Board and Exco levels of the company and a subsequent position statement on climate change updated in the previous reporting year.

### Time horizon

Long-term

### Likelihood

About as likely as not

### Magnitude of impact

Medium-high

### Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

### Potential financial impact figure (currency)

218000000

### Potential financial impact figure – minimum (currency)

<Not Applicable>

### Potential financial impact figure – maximum (currency)

<Not Applicable>

### Explanation of financial impact figure

The reputational impact of being associated with fossil fuel projects and potential clients not choosing Murray & Roberts as a result is difficult to quantify as this has not taken place. However, if we assume a 1% reduction in revenue due to this risk materializing, this translates into a potential financial impact of R218 million, using our FY2021 revenue figures.

### Cost of response to risk

965000

### Description of response and explanation of cost calculation

Murray & Roberts undertook a benchmarking study that assessed the climate change risks and opportunities identified by its competitors. To build on this we furthered our initial research by performing a deep dive into identifying the medium-term risks and opportunities within one of our main customer bases, the mining sector. The results indicated that with the carbon intensive nature of mining operations, coupled with external stakeholder pressure, Murray & Roberts' Mining platform may face potential risks if it is not able to provide innovative services offering low carbon solutions. The results of the studies and research were presented to the Exco, HSE Committee of the Board and a subsequent position statement on climate change released in FY2020 and is reviewed on an annual basis. One of the important outcomes from this process was that going forward in line with our position on climate change, we will limit our participation to metallurgical coal projects outside South Africa, until such time that sustainable alternatives for large scale steel production are available. In addition, we will only consider participation in thermal coal projects which are earmarked to supply coal to power stations in South Africa, for as long as the country's economy and its electricity generating capacity depend on thermal coal. More recently, the Group initiated climate-related scenario analysis to understand the risks and opportunities under future climate scenarios.

We consider the cost of undertaking the benchmarking study, mining sector risk and opportunity analysis, scenario analysis, the ESG assessment and the executive-level engagement activities undertaken on our climate-related strategy considerations to be the cost to realize the opportunity. These activities have cost Murray & Roberts R965 000 to date.

### 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**

Markets

**Primary climate-related opportunity driver**

Access to new markets

**Primary potential financial impact**

Increased revenues through access to new and emerging markets

**Company-specific description**

As global funding of thermal energy, particularly coal-fired power, abates in the move to a lower carbon economy, more funding will be diverted to renewable energy, natural gas, and hydropower supply. In Africa, increasing populations and economic growth in the long term is anticipated to lead to a significant increase demand for energy by 2040, with more than 15% from renewables. More specifically, in South Africa, the fifth and sixth bid window of the Renewable Independent Power Producer Programme (REIPPP) is underway, and the government has recently announced an increase in the cap for self-generation of power from 1MW to 100MW. In consideration of the above, the Group anticipates growth in the South African renewables sector, bolstered by shifting public sentiment and market aversion to fossil fuels. Accordingly, the Power, Industrial and Water (PIW) platform is positioning itself to take advantage of the opportunities these shifts present. For example, OptiPower Projects were successful in securing the Nseleni, Impala and Mbatuba 132kV line from Eskom Distribution in FY2022

As the REIPPP projects achieve a financial close, the EPC landscape in South Africa is expected to change. The PIW platform is positioned as both an Engineering Procurement and Construction (EPC) and/or EBOP or standalone contractor through multiple strategies with multiple IPPs (Integrated Power Producers) and international EPCs/Original Equipment Manufacturers (OEM). PIW is currently engaged in expressions of interests and requests for proposals for private commercial PPA's with industrial and mining clients for renewable IPP developments.

We also expect the execution of Phase 1 of Eskom's Battery Energy Storage Programme, and procurement for Phase 2 of this programme, to commence shortly. The PIW platform, through OptiPower Projects, is well positioned to participate in the electrical balance of plant work on these projects.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

1500000000

**Potential financial impact figure – minimum (currency)**

&lt;Not Applicable&gt;

**Potential financial impact figure – maximum (currency)**

&lt;Not Applicable&gt;

**Explanation of financial impact figure**

The embedded, self-generation regulatory reform in South Africa is expected to unlock significant investment in new generation capacity in the short and medium term, enabling companies to build their own renewable generation facilities to supply their energy (grid) needs. Plants developed to power mining facilities, industrial facilities and farming operations are allowed to wheel electricity through municipal and Eskom networks and sell surplus electricity to nonrelated buyers (back to the grid). This is likely to subsequently unlock investment in mining development and expansion projects. In the medium term, the Group expect the renewables market to grow 10-fold with 15GW of projects that might be developed, representing over R150 billions of investments. If the PIW is able to access 2% of this market value, it would represent a financial impact of R15 billion.

**Cost to realize opportunity**

38000000

**Strategy to realize opportunity and explanation of cost calculation**

The acquisition of OptiPower projects in FY2020 has enabled the PIW platform to extend its transmission, distribution and electrical balance of power expertise and directly position the platform in the current renewable energy market.

Furthermore, the PIW platform has recently established Wade Walker Solar to pursue industrial solar PV opportunities up to 10MW in scale. This business provides project development, EPC as well as equipment supply services and aims to address solar generation in the short term. The business forms part of our strategy to realise this opportunity. It carries stock and expertise to roll-out solar projects to increase commercial PPAs for small scale self-generation, roof-top PV across sub-Saharan Africa. It will focus on commercial PV solar roof installations, which are gaining momentum due to a relaxation of legislation to allow self-generation.

In addition, the Eskom Battery Energy Storage projects is expected to provide more opportunities. As the solar energy start-up company matures, battery storage may be added to its portfolio.

OptiPower was acquired for a consideration of R38 million which is considered the current major cost to realize the opportunities identified in the renewable energy sector.

**Comment**

None.

**Identifier**

Opp2

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development of climate adaptation, resilience and insurance risk solutions

**Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

**Company-specific description**

Climate change is expected to result in a significant shift in climate and weather patterns leading to an increased severity and frequency of extreme events such as droughts, storms, hurricanes, wildfires etc. This will increase the vulnerability of our clients (and the end users of our commissioned projects) to infrastructure damage and rising insurance costs.

Mining clients are likely to begin evaluating service providers in terms of climate change maturity and carbon footprint going forward. Murray & Roberts has an opportunity to become a differentiated service provider by becoming a leader on climate change.

Copper is widely expected to see increased demand in support of increased electrification and interconnection of renewable energy sources. Further, green hydrogen and Battery Energy Storage Systems (BESS) are competing to become the solution to the intermittent nature of renewable energy sources. This may result in significant increased demand for the related minerals – Platinum Group Metals (PGM) for hydrogen and lithium, vanadium and cobalt for example for BESSs. Murray & Roberts may have an opportunity to provide additional services in these mining sectors going forward.

A large proportion of the mining platform's order book comprises projects in future mineral. This presents an opportunity for us to grow our exposure to these minerals and strengthen our relationships with related clients.

As a case in point, the mining platform continues to work on three projects related to future metals.

This opportunity has the potential to expand our project pipeline and business profile for Mining platform and accordingly increase revenues.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-high

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

N/A

**Cost to realize opportunity**

965000

**Strategy to realize opportunity and explanation of cost calculation**

Murray & Roberts is actively pursuing these kinds of opportunities. In FY2017, with the assistance from external parties, Murray & Roberts undertook a benchmarking study that assessed the climate change risks and opportunities identified by its competitors. The study also sought to understand the competitors' vision of sustainability and how they are embedding this into their business processes. To build on this we furthered our initial research in FY2018 and FY2019 by performing a deep dive into identifying the medium-term risks and opportunities within one of our main customer bases, the mining sector. The results indicated that with the carbon intensive nature of mining operations, coupled with external stakeholder pressure, Murray & Roberts' Mining platform may be well placed to implement innovative services offering low carbon solutions.

A high-level, qualitative climate scenario analysis was also completed to understand the risks and opportunities for the Group under different future scenarios (with a focus on the mining sector), including the market-related opportunities. The process is providing further insight into the strategic opportunities to offer climate resilient products and services to clients.

We consider the cost of undertaking the benchmarking study, mining sector risk and opportunity analysis, scenario analysis, and the ESG assessment to be the cost to realize the opportunity. These activities have cost Murray & Roberts R965 000 to date.

**Comment**

The price outlook for most major commodities remains strong in the medium term. This is expected to drive growth in mining investment with an emphasis on brownfields expansion, production optimization and restarts. Prices for commodities required for decarbonization (future minerals) are expected to escalate further in the medium term as demand increases. The growing imbalance between supply and demand will also necessitate further mining investment to increase supply of these commodities. These factors support a positive outlook for the Australian mining contracting market, forecast to grow at a CAGR of 2,4% over the next five years. Similar growth is expected in other major markets including North America and Latin America.

**Identifier**

Opp3

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

**Company-specific description**

There is increasing pressure on companies to address both the regulatory and physical risks from climate change. Climate change is expected to result in a significant shift in weather patterns leading to rising temperature, increased storm and flood events and droughts. Infrastructural damage from increased severity of storm events may become more common in the future. Regulatory risks are going to lead to an increased cost in the use of fossil-fuel based inputs.

There is an opportunity for Murray & Roberts to innovate and deliver services to our clients who prefer services and products that will further build resilience to physical and transitional climate change impacts. This includes opportunities such as designing operations to be energy and water efficient, making use of lower carbon energy sources, and designing operations to be resilient to the acute and chronic physical impacts of climate change. Two specific examples relate to low emission / reduced water consumption technologies Murray & Roberts is developing in the mining sector. Cementation Canada is working on a new technology called Injection Hoisting. Injection Hoisting is an innovative alternative approach to conventional hoisting or trucking ore/waste rock from underground mines. The benefits of the technology include the reduction of carbon emissions through reduction/elimination of underground mine trucks as well as lower electricity consumption as there is a lower ventilation demand. Compared with trucking, the system has the potential for emissions reductions of approximately 4,500 tonnes of CO<sub>2</sub>e.

Furthermore, the recently acquired Terra Nova Technologies offers Dry Stack Tailings (DST) management solutions for mines operating in water constrained areas. The technology and service benefits include reduced water requirements, principally achieved by recycling process water and near elimination of water losses through seepage and/or evaporation and groundwater contamination through seepage is virtually eliminated.

**Time horizon**

Medium-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium-high

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

774000000

**Potential financial impact figure – maximum (currency)**

946000000

**Explanation of financial impact figure**

In order to estimate the potential financial impact of this opportunity, we have considered the project value of a previous dry stack tailings project implemented by Terra Nova Technologies for a client in Saudi Arabia. The project included the design and supply of mechanical and structural electrical and instrumentation of a 35 000 tonne tailings/day overland conveying and dry stacking system. The value of the project was approximately \$60 million (ZAR860 million). In the reporting year, Terra Nova secured a three-year engineering ongoing and on-site technical support contract for this mine site, which has generated additional revenue from the Terra Nova dry stack tailings innovation. The financial value of this service level agreement cannot be disclosed; hence we have estimated the potential finance impact of similar future projects to fall within a 10% range of the value of the original installation project (i.e., R860 000 x 110% = R946 000 000 maximum and R860 000 x 90% = R774 000 000 minimum). Terra Nova is a business within our Mining Platform and is based in America.

**Cost to realize opportunity**

552000000

**Strategy to realize opportunity and explanation of cost calculation**

One of the strategies to deliver low carbon / low-water consumption technologies is acquisition of new businesses that can provide these services / technologies, and which complements the engineering and construction services already provided. Murray & Roberts acquired a new business, Terra Nova Technologies, in FY2020 and one of the technologies Terra Nova Technologies is offering is Dry Stack Tailings (DST), which significantly reduces water consumption for our mining clients. The cost of the acquisition was \$38million (R552 million).

**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, our strategy has been influenced by climate-related risks and opportunities, but we do not plan to develop a climate transition plan within two years

**Publicly available climate transition plan**

<Not Applicable>

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

<Not Applicable>

**Description of feedback mechanism**

<Not Applicable>

**Frequency of feedback collection**

<Not Applicable>

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

<Not Applicable>

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

As our climate change position statement indicates, we endorse the Paris Agreement and its objective of limiting the global temperature rise. We are committed to monitoring and reducing our carbon footprint, considering the environmental impact when participating in new projects, collaborating with clients and supply chains to find carbon emission reduction solutions, and expanding our services in the renewable energy sector to support the transition to a low carbon future.

Given these commitments and the risks and opportunities associated with climate change, we have been actively taking various measures to align our business with a low carbon future. These measures include monitoring and reporting our carbon footprint, evaluating our value chain and scope 3 emissions, analysing climate-related scenarios, integrating climate-related risks and opportunities into our business strategy, implementing energy efficiency initiatives, and initiating an emission reduction pathway project.

Further, we are committed to developing a net-zero emissions plan within the next two years. While we can incorporate emission reduction practices during the initial stages of client engagement and project design, we must be responsive to client demands and often have limited control over the energy sources, equipment, and materials provided by clients on project sites.

Moreover, the diversity in geography, pipelines, technology, and operations across our platforms and businesses makes it challenging to set uniform emission targets for the entire group. As a result, emission targets may vary between platforms and/or groups to ensure they are both ambitious and realistic based on the specific circumstances.

Recognizing this complexity, we have initiated a process to understand and assess the sources of emissions and energy consumption patterns within each platform and business. Our goal is to establish emissions targets at the site, project, business, and/or group level, as appropriate. This Emission Pathway will guide our Group towards reducing its carbon footprint.

**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
Transition scenarios	Customized publicly available transition scenario	Business division	1.6°C – 2°C	<p>Three qualitative scenarios were used to understand and analyse the implications of climate change on the Mining platform. The parameters and assumptions that were considered for the scenarios that were used were related to driving forces around GDP, population and urbanisation growth, associated with social impacts, and consideration of workforce disruption by the impacts of climate change. Further policy and legal parameters were considered such as transition that is driven by clear and fair policy, transition forced by litigation, and limited implementation of policies. Economic &amp; market drivers describes how the economy is changing in response to climate change. Other global and economic factors considered were significant finance and investment in sustainable economic activities which leads to GDP growth. However, as physical climate change impacts take hold, this could lead result in extended GDP contractions. Market related forces were considered such as managed transition to sustainable materials and operations, and any market disruptions as the mining sector transitions to a low carbon economy.</p> <p>This scenario represents the physical component of our ‘Organised Transition’ scenario, which is a combination of RCP1.9 and RCP2.6 reference physical scenarios and SSP1 reference transition scenario. This scenario is based on an average global temperature rise of &lt;math&gt;\leq 2^{\circ}\text{C}&lt;/math&gt;. The timescale of the analysis is up to 2050. Under this scenario, the following assumption are made with respect to the drivers considered:</p> <ul style="list-style-type: none"> <li>- Social impacts: Climate conscious society means that non-climate conscious companies struggle to operate</li> <li>- Technology: Significant investments in green technology, rapid development, and implementation from 2025 onward</li> <li>- Market: Managed transition to sustainable materials and operations</li> <li>- Policy &amp; legal: Transition driven by clear and fair policy</li> <li>- Global economic impacts: Significant finance for and investment in sustainable economic activities leads to stable and continued GDP growth</li> </ul>
Physical climate scenarios	Customized publicly available physical scenario	Business division	2.1°C - 3°C	<p>Three qualitative scenarios were used to understand and analyze the implications of climate change on the Mining platform.</p> <p>This scenario represents the physical component of our ‘Disorganized Response’ scenario, which is a combination of RCP4.5 reference physical scenario and SSP2 and SSP4 reference transition scenarios. This scenario is based on an average global temperature rise of 2.5 – 3 °C. The timescale of the analysis is up to 2050.</p> <p>Under this scenario, the following assumption are made with respect to the drivers considered:</p> <ul style="list-style-type: none"> <li>- Social impacts: Social upheaval as workers in traditional sectors are displaced</li> <li>- Technology: Delayed development and implementation from 2035 onward</li> <li>- Market: Disrupted transition in mining sector</li> <li>- Policy &amp; legal: Transition forced by litigation and government enforcement</li> <li>- Global economic impacts: GDP grows following recovery from COVID, until disrupted transition leads to fits &amp; starts.</li> </ul>
Physical climate scenarios	Customized publicly available physical scenario	Business division	3.1°C - 4°C	<p>Three qualitative scenarios were used to understand and analyze the implications of climate change on the Mining platform. The parameters were related to acute climate change risks, which include project disruptions due to extreme and unpredictable weather conditions, including floods and extreme weather events, such as cyclones, wildfires etc. These events would lead to operational delays and damage to infrastructure.</p> <p>This scenario represents the physical component of our ‘Hot House World’ scenario, which is a combination of RCP6.0 and RCP8.5 reference physical scenarios and SSP3 reference transition scenario. This scenario is based on an average global temperature rise of 3.0 – 4.3 °C. The timescale of the analysis is up to 2050.</p> <p>Under this scenario, the following assumption are made with respect to the drivers considered:</p> <ul style="list-style-type: none"> <li>- Social impacts: Workforces severely disrupted by impacts of physical climate change</li> <li>- Technology: Limited development until after 2050</li> <li>- Market: Market remains stable for an extended period, after which significant disruption begins to occur</li> <li>- Policy &amp; legal: Limited implementation of policy, but number of civil litigation events increase</li> <li>- Global economic impacts: GDP growth slows over time as physical climate change impacts take hold, resulting in extended GDP contraction</li> </ul>
Transition scenarios	Customized publicly available transition scenario	Business division	3.1°C - 4°C	<p>Three qualitative scenarios were used to understand and analyse the implications of climate change on the Mining platform. The parameters and assumptions that were considered for the scenarios that were used were related to driving forces around GDP, population and urbanization growth, associated with social impacts, and consideration of workforce disruption by the impacts of climate change. Further policy and legal parameters were considered such as transition that is driven by clear and fair policy, transition forced by litigation, and limited implementation of policies. Economic &amp; market drivers describes how the economy is changing in response to climate change. Other global and economic factors considered were significant finance and investment in sustainable economic activities which leads to GDP growth. However, as physical climate change impacts take hold, this could lead result in extended GDP contractions. Market related forces were considered such as managed transition to sustainable materials and operations, and any market disruptions as the mining sector transitions to a low carbon economy.</p> <p>This scenario represents the transition component of our ‘Hot House World’ scenario, which is a combination of RCP6.0 and RCP8.5 reference physical scenarios and SSP3 reference transition scenario. This scenario is based on an average global temperature rise of 3.0 – 4.3 °C. The timescale of the analysis is up to 2050.</p> <p>Under this scenario, the following assumption are made with respect to the drivers considered:</p> <ul style="list-style-type: none"> <li>- Social impacts: Workforces severely disrupted by impacts of physical climate change</li> <li>- Technology: Limited development until after 2050</li> <li>- Market: Market remains stable for an extended period, after which significant disruption begins to occur</li> <li>- Policy &amp; legal: Limited implementation of policy, but number of civil litigation events increase</li> <li>- Global economic impacts: GDP growth slows over time as physical climate change impacts take hold, resulting in extended GDP contraction</li> </ul>

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 critical questions or potential decisions that we are seeking to address through the mining platform scenario analysis process includes:

- How would the Group deal with the global transition to a low carbon economy?
- Where does the Group place itself in a low carbon future?
- How would we manage the transitional risks associated with climate change, i.e., how does the Group safeguard itself from becoming irrelevant or being disrupted out of business?
- What are the potential impacts of physical climate change on business operations?
- How will the low carbon transition impact our orderbook and revenue given our operating geographies, changes in the demands for commodities and the clients' differing strategic objectives (i.e., some clients may have a greater climate focus than others)?

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

The results of the scenario analysis have enabled us to identify key climate change drivers, risks and opportunities associated with the mining industry which may impact our business going forward in the context of our reputation, the market, policy and legislation, and technology.

It is evident that the physical impacts of climate change are site specific and will impact certain mining operations and projects more significantly than others. In addition, these impacts will demand new types of services to the mining sector in future, e.g., on-site water management, design for disaster conditions not seen before, on-site renewable energy generation etc. Our Power, Industrial and Water platforms have the experience and capabilities to provide these ancillary, on-site/operational products, and services. For example, OptiPower and Wade Walker Solar have the capabilities to provide EPC services related to renewable power plant installations and transmission connections of mine sites. Murray & Roberts Water has the capabilities to provide on-site wastewater treatment services to enhance on-site water efficiency and resilience to drought conditions.

Proactive mining clients are likely to survive and thrive in the transition while those not paying attention to climate change run the risk of facing stranded assets or being severely impacted by physical events. Accordingly, the Group will continue to report and engage with clients and stakeholders on our commitments and contribution towards the low carbon transition. This will ensure our reputation is maintained as credible global operator that can assist proactive clients in achieving their climate-related operational and strategic objectives.

The scenario analysis also showed that in the electricity generation space, coal mining activities are expected to be surpassed by mining for commodities such as copper and nickel for renewable electrification and battery energy storage systems respectively. Based on this analysis, the Mining platform has begun quantifying the key revenue and financial impacts associated with each of the scenarios given their implications for the future commodity market, our order book and our clients' climate commitments and climate scenario outlooks.

**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	<p>Projects in the mining sector comprise a noteworthy portion of the Group's business activities. The reputational risks of climate change, specifically around the use of coal-based power, have influenced Murray &amp; Roberts' position. These specific risks and opportunities have been discussed at the Board and Exco levels of the company and a subsequent position statement on climate change was released during the reporting year, as a result.</p> <p>The most substantial climate-related strategic decision that has been made is that the Executive Committee of Murray &amp; Roberts will now review, approve, or reject all coal projects irrespective of value. Furthermore, Murray &amp; Roberts acquired OptiPower Projects business. In recognition of the transitional shift from fossil-fuel power to renewables, this acquisition strategically positions the Power, Industry and Water platform to participate in the growing South African renewable energy sector.</p> <p>The time-horizon of the influence of risks and opportunities tied to climate-related products and services is current and ongoing.</p>
Supply chain and/or value chain	Yes	<p>Environmental concerns and the impacts from a changing climate have made it imperative for society to reduce water consumption and reuse wastewater. Given the fact that climate change impacts from rising temperatures are going to continue to manifest long into the future, we consider this issue to be a long-term opportunity to assist our clients who are facing these issues at their mining operations. A substantial strategic decision relates to acquisition of capabilities in the mining sector that can provide services / technologies to help clients reduce water consumption and manage environmental risks and which complements the engineering and construction services already provided. Murray &amp; Roberts acquired Terra Nova Technologies in 2019 and one of their new technology offerings is Dry Stack Tailings (DST), which significantly reduces water consumption for our mining clients. We are actively marketing this capability to our mining clients as a means to significantly improve the water efficiency of their mining operations and drastically reduce the water requirements of tailings management.</p>
Investment in R&D	Yes	<p>Environmental concerns and the impacts from a changing climate have made it imperative for society to reduce GHG emissions and save energy. Given the fact that climate change risks are only going to increase in severity and frequency long into the future, we consider this issue to be a long-term opportunity to assist our clients who are facing these issues at their mining operations. A substantial strategic decision relates to the investment in R&amp;D of new technology by Cementation Canada called Injection Hoisting. Injection Hoisting is an innovative alternative approach to conventional hoisting or trucking ore/waste rock from underground mines. The benefits of the technology include the reduction of carbon emissions through reduction/elimination of underground mine trucks as well as lower electricity consumption as there is a lower ventilation demand. Compared with trucking, the system has the potential for emissions reductions of approximately 4,500 tonnes of CO2e annually. A working prototype system will be the next step with plans to roll out the technology in the next 3 years.</p> <p>As a case in point, we have committed R2 million each year to support postgraduate researchers at the University of Pretoria' School of Mining. The University advances the specialized skills and leadership capacity needed to accelerate the adoption of new technology in the mining sector.</p>
Operations	Yes	<p>Murray &amp; Roberts operates in some typhoon/cyclone and flood-prone areas, for example off the west coast of Australia. Climate-induced increases in the frequency or intensity of cyclones / typhoons poses a risk to the timely and complete delivery of Cementation's projects. Given these changes, increased attention is placed on potential controls to mitigate the risk of project delays and other project impacts from weather-related events. These decisions are made at a project level and are done on an ongoing basis. The time-horizon of the response to this operational risk is immediate and ongoing as each platform considers the applicable weather-related risk on a project-by-project basis during the project design stage. The anticipated duration of the project (for example, 6 months or 6 years) is also considered when assessing the time-horizon of the applicable weather-related risk for a project.</p> <p>Climate-related opportunities have significantly influenced our operational strategy for the Power, Industrial &amp; Water (PIW) platform as we anticipate growth in the renewable energy sector in South Africa. The presidency recently announced the liberalization of the sector by lifting the limit on self-generation of power. Accordingly, the PIW platform is shifting its operational strategy to focus on the renewable energy market. Our role will be that of engineering, procurement &amp; construction (EPC) or operations &amp; maintenance (O&amp;M), acting on behalf of independent power producers (IPPs) or providing long-term operation and maintenance. The acquisition of OptiPower Projects forms part of the PIW platform's operational strategy to gain capacity in the transmission, distribution, and substation sectors of the power market, including the renewable power market. The PIW platform also recently formed a solar start-up company Wade Walker Solar (using the expertise of a current PIW business) to further position the platform within the Southern African small-scale solar market.</p>

### 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	Acquisitions and divestments	<p>Acquisition forms a key part of our growth strategy and enable the further diversification of our earning potential and risk exposures. Murray &amp; Roberts' market focus covers those market sectors where infrastructure is established, aimed at growing economies and to address severe socioeconomic imbalances. We recognize that investment in these sectors follows conscious capital investment decisions, hence intentional strategic improvements of ESG outcomes are therefore important to attract the necessary capital from financial institutions and potential investors. Murray &amp; Roberts has made acquisitions in a number of businesses over the last 4 years, all of which were related to the increasing pressure on water resources and the low carbon transition. These acquisitions enhance the environmental impacts (ESG) and market opportunities of the group.</p> <p>Climate change is a significant contributor to the increasing demand for products and services in the water sector driven by the increased frequency and severity of water scarcity and rising temperatures events. Given this market outlook, Murray &amp; Roberts has undertaken a number of strategic investment decisions to secure our position in the growing renewable energy sector. In the previous financial year, we acquired Optipower (part of the Power, Industrial and Water platform) which provides balance of plant, substations, interconnections, and battery energy storage systems installations for the solar and wind energy markets. In the previous reporting year, the Wade Walker Solar (part of the Power, Industrial and Water platform) joint venture pursued industrial solar PV opportunities up to 10MW in scale. This business provides project development, engineering procurement and construction (EPC), and equipment supply services to the solar market. Murray &amp; Roberts will continue to investigate opportunities (in the short and medium term) that will position the Group to capitalize on the low-carbon transition and the increased vulnerability of operations to chronic and acute climatic conditions.</p>

### C3.5

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

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

## C4. Targets and performance

### C4.1

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

No target

### C4.1c

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

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	<p>Although our revenue and orderbook have shown incremental gains over the past three years, our revenue-based emission intensity has incrementally declined i.e., Murray &amp; Roberts' emission intensity is inversely related to its revenue. More specifically, the Group revenue and orderbook has increased by 37% and 29% respectively since FY2020.</p> <p>In the reporting year, our emission profile increased by 38% relative to FY2020. We anticipate a short-term decrease in our emission profile as the ERI platform, which accounts for 37% of the total emissions, will not be included as of FY2023. However, in the medium to long term (post FY2023) the Group will continue seeking opportunities for organic and acquisition growth. In the reporting year we achieved a record-high order book which reflects both the Group's strategic progress over many years, and the pressing global development needs driving major opportunities in our international markets.</p> <p>The Mining platform underwent consolidation and a rebuilding of its order book in FY2022 which resulted in a 5% decrease in the platform's record order book. Accelerated growth is expected from FY2023. Finally, we are optimistic about the Power, Industrial and Water platform's prospects in the medium term (FY2024) as there are encouraging signs of near-term investment with prospects for construction opportunities coming to market in the next 12 months.</p>	<p>Group-wide emissions have decreased by 83% since FY2017 due to the disposal of two emissions-intensive platforms, Infrastructure &amp; Buildings and Murray &amp; Roberts Limited Middle East operations. These facilities formed the bulk of our Group-wide emissions, hence targets to improve energy efficiency, and reduce emissions were focused on these businesses. As a result of the divestment, these targets fell away and the materiality of emissions (as well as the fuel and electricity costs) of the remaining business against our baseline remained low.</p> <p>To date we have undertaken group-wide engagement to improve the understanding of emissions and energy consumption patterns within our platforms and each business, while concurrently updating our reporting system to enable more accurate reporting of activity data and calculation of emissions data. The latter is particularly important for sites that have recently started generating on-site renewable energy or which consume low carbon grid electricity. In the reporting year, we validated our environmental baseline which will inform the Net Zero emissions plan that we intend on developing in the next reporting year.</p> <p>We recognise that the geographic, pipeline, technology and operational diversity between the businesses renders group-wide target setting to be complex.</p> <p>In recognition of this complexity, the plans to implement the emission targets will consider the business activities associated with the emissions that are in the targets scope. In instances where the emissions are a result of electricity consumption, alternative renewable or low carbon electricity alternatives will be considered for both grid and on-site-generated electricity consumption. Finally, technology alternatives will also be researched for material emission areas in the group. This is part of the Emission and Water Pathway Project scope.</p>

### C4.2

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

No other climate-related targets

### 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 CO<sub>2</sub>e savings.

	Number of initiatives	Total estimated annual CO <sub>2</sub> e savings in metric tonnes CO <sub>2</sub> e (only for rows marked *)
Under investigation	0	
To be implemented*	0	
Implementation commenced*	1	820
Implemented*	2	101
Not to be implemented	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 buildings	Lighting
--------------------------------	----------

**Estimated annual CO2e savings (metric tonnes CO2e)**

57

**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)**

85739

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

150490

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

This is an ongoing initiative at our Bentley Park facility in Carletonville where old or broken lights are being replaced with efficient alternatives. In the reporting year we replaced 250 fluorescent lights with LED lights.

**Initiative category & Initiative type**

Low-carbon energy consumption	Solar PV
-------------------------------	----------

**Estimated annual CO2e savings (metric tonnes CO2e)**

44

**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)**

65598

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

22000000

**Payback period**

21-25 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

The Cementation Training Academy at Bentley Park, Carletonville, installed a hybrid solution using solar energy for most of the Academy's requirements, with lithium batteries providing backup power to the electrical training equipment during outages. The solar panels generated approximately 41 889 kWh of power in the reporting year. We anticipate that the solar PV will support 52% of Bentley Park's energy needs in the next reporting year.

**C4.3c**

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

Method	Comment
Dedicated budget for energy efficiency	None.

**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**

Low-Carbon Investment (LCI) Registry Taxonomy

**Type of product(s) or service(s)**

Power	Onshore wind
-------	--------------

**Description of product(s) or service(s)**

OptiPower Projects provide services in the transmission, distribution, substation, and battery storage subsectors of the solar and wind power market, in South Africa. We established Wade Walker and Aarden Solar to further pursue industrial solar PV opportunities. The business is able to service mining and larger industrial clients, providing project development, EPC, and equipment supply services. Aarden Solar provides energy equipment in the renewables energy industry including solar panels, batteries, inverters and other accessories. In the reporting year, Optipower was awarded a 20.5 kWp Solar Installation at the Impala Slag Plant in South Africa, with an additional 314 kW to be installed at the Impala Visitors Centre and Executives office. Furthermore, a 1.3MW solar plant will be commissioned at the Impala 16 Shaft. The platform was awarded a 280kWp Solar installation at the Kharma Group. Renewable energy forms a growing portion of the national power market with the introduction of the Renewable Independent Power Producer Programme (REIPPP) in 2011. The next tranche of projects under the REIPPP Programme is underway with bid window five. In addition, the government recently increased the licensing threshold for embedded generation projects from 1 MW to 100 MW. This is anticipated to stimulate the private, embedded renewable power market. The Group is well positioned to take advantage of the opportunities the increased renewable power demand presents.

**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**

0.43

**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 2014

**Base year end**

June 30 2015

**Base year emissions (metric tons CO2e)**

54249

**Comment**

None.

### Scope 2 (location-based)

**Base year start**

July 1 2014

**Base year end**

June 30 2015

**Base year emissions (metric tons CO2e)**

19691

**Comment**

None.

### Scope 2 (market-based)

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

None.

### Scope 3 category 1: Purchased goods and services

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

35300

**Comment**

None.

### Scope 3 category 2: Capital goods

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None.

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

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

1100

**Comment**

None.

**Scope 3 category 4: Upstream transportation and distribution**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None

**Scope 3 category 5: Waste generated in operations**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

2400

**Comment**

None.

**Scope 3 category 6: Business travel**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

2300

**Comment**

None.

**Scope 3 category 7: Employee commuting**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

4300

**Comment**

None.

**Scope 3 category 8: Upstream leased assets**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None

**Scope 3 category 9: Downstream transportation and distribution**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None

**Scope 3 category 10: Processing of sold products**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None.

**Scope 3 category 11: Use of sold products**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None.

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

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None

**Scope 3 category 13: Downstream leased assets**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None

**Scope 3 category 14: Franchises**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None



**Scope 3 category 15: Investments**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None.

**Scope 3: Other (upstream)**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None

**Scope 3: Other (downstream)**

**Base year start**

July 1 2020

**Base year end**

June 30 2021

**Base year emissions (metric tons CO2e)**

0

**Comment**

None

**C5.3**

---

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

Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

**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)**

7929

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

None.

**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**

None.

**C6.3**

---

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

**Reporting year**

**Scope 2, location-based**

7436

**Scope 2, market-based (if applicable)**

<Not Applicable>

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

None.

**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)**

48863

**Emissions calculation methodology**

Average data method

Spend-based method

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

0.04

**Please explain**

Emissions from the production of purchased goods included the production of cement & concrete, steel, electrical cable, cable ladders, piping, aggregate and other purchased construction, and mining goods. Emissions associated with the municipal water withdrawn by Murray & Roberts as well as water discharged to the municipality were also included in the calculation. Procurement spend data is used to estimate the emissions associated with construction and mining goods. Tonnes of goods (cement, steel, piping, and aggregate) and water data is collected from invoices from suppliers. This activity data is multiplied by the appropriate emission factor. Water emission factors are sourced from DEFRA. Quantis spend-based emission factors are applied for other mining and construction goods. Emission factors for Cement, aggregates, etc. are sourced from the European Cement Association.

## Capital goods

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

19727

### Emissions calculation methodology

Spend-based method

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

0

### Please explain

In 2022, we expanded our scope 3 emissions inventory to include emissions from capital goods. This includes all upstream (i.e., cradle-to-gate) emissions from the purchase of new equipment and new vehicles associated with new project development by Murray & Roberts in the reporting year.

Procurement spend data on capital goods is collected and multiplied by the appropriate spend-based 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)

1985

### Emissions calculation methodology

Average data method

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

100

### Please explain

This category includes emissions related to the production of fuels and energy purchased and consumed by Murray & Roberts in the reporting year and that are not included in Scope 1 or Scope 2. This includes the emissions from diesel, petrol, acetylene, heavy fuel oil, LPG, and natural gas, as well as transmission and distribution (T&D) losses from purchased electricity. The activity data was obtained from supply chain records of the quantity of each type of fuel purchased. Emission factors are sourced from DEFRA. All activity data was obtained from the fuel and energy supplier invoices.

## Upstream transportation and distribution

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

5542

### Emissions calculation methodology

Spend-based method

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

0

### Please explain

In 2022, we expanded our scope 3 emissions inventory to include emissions from the upstream transportation and distribution of raw materials and construction elements.

Procurement spend data on upstream transportation and distribution is collected and multiplied by the appropriate spend-based emission factors sourced from Quantis.

## Waste generated in operations

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

2118

### Emissions calculation methodology

Average data method

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

100

### Please explain

Waste generated in our operations includes solid and liquid hazardous waste, non-hazardous waste excluding building rubble, as well as waste recycled (oil,paper,plastic,steel and timber/wood). Emissions data from waste generated in our operations are collected on a monthly basis and multiplied by the relevant emission factor sourced from DEFRA. All activity data was obtained from the disposal quantities indicated on the waste disposal supplier invoices.

## Business travel

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

5133

### Emissions calculation methodology

Distance-based method

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

100

### Please explain

Emissions associated with business travel were estimated by multiplying activity data for mode of transport (e.g., distance travelled) by an applicable emission factor for that mode of transport (e.g., t CO2/km). The modes of transport included flights, cars, and bus hire. All emission factors were sourced from DEFRA. All activity data for this calculation was obtained directly from our travel agents (i.e., suppliers).

## Employee commuting

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

4075

### Emissions calculation methodology

Distance-based method

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

0

### Please explain

Data on employee commuting data was not available for this reporting year. However, a high-level approximation was made by applying suitable assumptions to the employee breakdown of the Murray & Roberts Group. It was assumed that 46% of the total employees travel on private cars and live relatively close to work, and 54% make use of public transport and live relatively far from work. Public transport is represented by minibus taxi in South African operations and by bus in North American and Australian operations. Emission factors for private car, bus and minibus taxi are sourced from DEFRA.

## 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

Murray & Roberts does not have any upstream assets that are leased; thus, this category's emissions are 0 tCO2e.

## Downstream transportation and distribution

### 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

Murray & Roberts constructs physical assets. Thus, this category is deemed irrelevant as the amount of downstream transport and distribution is very small and will not be a material contributor to total Scope 3 emissions, (i.e., this is a very low risk contributor). In addition, the influence that the company will have on this transport is negligible, while the time and cost to obtain such data is not proportional to the outcome.

## Processing 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

Murray & Roberts constructs physical assets and does not produce intermediate products. Thus, this category is deemed irrelevant as the quantity of emissions that may be produced from any processing after the commissioning of a project is negligible and will not be a material contributor (i.e., this is a very low risk contributor). In addition, the influence that the company will have on this category is limited while the time and cost to obtain such data is not proportional to the value of determining this figure.

## 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

Although emissions from the use of 'products' (e.g., infrastructure) produced as a result of the Group's engineering and construction services can be measured, the company has a limited responsibility for the initial conception of infrastructure specifications or maintenance and has limited influence over the ultimate performance of buildings or their use by owners/occupiers. For this reason, Murray & Roberts has limited ability to influence this value chain emission source and to collect the required data to evaluated emissions from downstream use of commissioned projects. Although efforts have been made to source proxy emission factors for this category in the Group's sector to enable the estimation of this emission category, the available resources remain limited for the company's sector and have extremely high variances.

## 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

Murray & Roberts typically constructs large infrastructure for the mining, oil, gas, power, and water industries. These assets typically have a very long lifetime and are not consumed goods that are disposed of in landfill. In addition, if these assets are eventually decommissioned and disposed of, the GHG emissions associated with the product (concrete, steel etc.) is typically inert and will not contribute to methane emissions in landfill. Subsequently, this category is not relevant based on risk exposure, size of carbon footprint and influence the company can have.

## 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

We account for emissions from our assets in the Group's Scope 1 and 2 emissions. There are no assets that are owned and leased to third parties; hence this category is not relevant and the emissions from this category are 0 tCO2e.

## 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

Murray & Roberts currently does not own, lease, or operate any franchises and thus the emissions from this category are 0 tCO2e.

## Investments

### 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

Murray & Roberts is not a private or public financial institution and hence this category is deemed not relevant and thus the emissions from this category are 0 tCO2e.

## Other (upstream)

### 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

No additional relevant upstream emission sources have been identified.

## Other (downstream)

### 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

Murray & Roberts typically constructs large infrastructure for the resources energy, infrastructure, and power & water industries (e.g., water treatment plants). These assets typically have a very long lifetime and are not consumed goods that are disposed of in landfill. In addition, if these assets are eventually decommissioned and disposed of, the greenhouse gas emissions associated with the product (concrete, steel etc.) is typically inert and will not contribute to methane emissions in landfill. Subsequently, this category is not relevant based on risk exposure, size of carbon footprint and influence the company can have.

## 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

0.0000005

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

15300

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

29900000000

**Scope 2 figure used**

Location-based

**% change from previous year**

2

**Direction of change**

Increased

**Reason(s) for change**

Other, please specify (Increased emissions and revenue)

**Please explain**

Absolute scope 1 and 2 emissions increased by 39% in the reporting year. This increase is attributed to enhanced data accuracy and increased business activity.

The total revenue was R29.9 billion during the reporting period. This is a 37% increase from R21,9 billion in the previous reporting period. The effect of an increase in emissions coupled with an increase in revenue resulted in an increased intensity figure from 0.00000500 to 0.00000512 metric tonnes CO2e/Revenue (ZAR).

---

**Intensity figure**

1.82

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

15300

**Metric denominator**

full time equivalent (FTE) employee

**Metric denominator: Unit total**

8394

**Scope 2 figure used**

Location-based

**% change from previous year**

57

**Direction of change**

Increased

**Reason(s) for change**

Other, please specify (Increased emissions and decreased number of full-time employees)

**Please explain**

Absolute scope 1 and 2 emissions increased by 39% in the reporting year. This increase is attributed to enhanced data accuracy and increased business activity.

The number of employees decreased from 9 393 to 8 394 over the reporting period (11%).

The effect of an increase in emissions coupled with a decrease in employees resulted in an increased intensity figure from 1.16 to 1.82 metric tonnes CO2e per employee.

---

**Intensity figure**

0.000001

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

15300

**Metric denominator**

Other, please specify (Value created. )

**Metric denominator: Unit total**

14654000000

**Scope 2 figure used**

Location-based

**% change from previous year**

16

**Direction of change**

Increased

**Reason(s) for change**

Other, please specify (Increased emissions and increased value added.)

**Please explain**

Total value added increased by 24% in the reporting year from R11.9 billion in 2021.

Absolute scope 1 and 2 emissions increased by 39% in the reporting year. This increase is attributed to enhanced data accuracy and increased business activity.

The effect of an increase in emissions coupled with an increase in employees resulted in a increased intensity figure from 0.0000009 to 0.000001 metric tonnes CO2e.

---

## C7. Emissions breakdowns

## C7.1

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

No

## 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	2819
Australia	4433
Canada	321
United States of America	337
Zambia	0

## C7.3

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

By business division

By facility

## C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Energy, Resources & Infrastructure	4199
Power, Industrial & Water	727
Mining	3074
Corporate Office	13

## 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
Corporate Office Campus (Bedfordview)	13	-26.176	28.135
M&R Cementation Maintenance Facility (Carletonville)	171	-26.3692	27.498
Cementation Canada (Head Office)	321	46.323	-79.446
RUC (Head Office)	234	-31.953	115.925
Client owned facilities where projects are conducted at	260	0	0
Cementation (Head Office)	2011	-26.176	28.135
Cementation USA (Head Office)	337	40.579	-111.904
Zambia Kitwe Office	0	-12.961	28.62
Clough (Head Office)	4199	-31.955	115.853
OptiPower	364	-26.1699	28.23482
Aquamarine	0	-26.1483	28.18218

## 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	5747	
Australia	1615	
Canada	53	
United States of America	0	
Zambia	0	



## C7.6

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

By business division

By facility

## C7.6a

**(C7.6a) Break down your total gross global Scope 2 emissions by business division.**

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Energy, Resources & Infrastructure	1466	
Power, Industrials & Water	179	
Mining	1876	
Corporate Office	3917	

## 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)
Corporate Office Campus (Bedfordview)	3917	
M&R Cementation Maintenance Facility (Carletonville)	1674	
Cementation Canada (Head Office)	53	
RUC (Head Office)	148	
Client owned facilities where projects are conducted at	59	
Cementation (Head Office)	0	
Cementation USA (Head Office)	0	
Zambia Kitwe Office	0	
Clough (Head Office)	1466	
OptiPower	97	
Aquamarine	0	

## C7.7

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

No

## 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	44	Decreased	0.4	Although our overall emissions increased in the reporting year, several initiatives were undertaken in effort to reduce our emissions. The solar panels installed at our Bentley Park facility generated approximately 42 MWh of electricity in the reporting year. Emissions decreased from solar were calculated as follows: 42MWh x 1.04 tCO2e/MWh = 44 tCO2e. The total Scope 1 & 2 emissions in the previous reporting year were 10 938 tCO2e, hence the emissions value was calculated as follows: 44/10 938 tCO2e = 0.4
Other emissions reduction activities	14	Decreased	0.13	Although our overall emissions increased in the reporting year, several initiatives were undertaken in effort to reduce our emissions. In the reporting year, we replaced 250 old and broken lights with efficient alternatives (LED lights) at our Bentley Park facility in Carletonville where old or broken lights are being replaced. The total emission savings increased by 14.34 tCO2e from the previous reporting year. The total Scope 1 & 2 emissions in the previous reporting year were 10 938 tCO2e, hence the emissions value was calculated as follows: 14.34/10 938 tCO2e = 0.13
Divestment	0	No change	0	Divestments undertaken in the reporting year did not affect our emissions.
Acquisitions	0	No change	0	No acquisitions were undertaken in the reporting year.
Mergers	0	No change	0	No mergers were undertaken in the reporting year.
Change in output	163	Increased	1.5	Increased business activity resulted in a slight increase (163 tCO2e) of our overall emissions. To estimate the percentage increase due to this, the following approach was used: 163/10938 tCO2e which results in a 1.5% increase.
Change in methodology	0	No change	0	The methodology remained consistent with the previous reporting year.
Change in boundary	4199	Increased	23	As an ongoing effort to improve our emissions reporting, emissions activity data from our Clough facility in Australia was incorporated into the emission calculations. In the previous year, data from our Clough facility was not readily available. The incorporation of Clough emissions data resulted in a net increase of 4 199 tCO2e in emissions reported for the business relative to the previous year. To estimate the percentage increase due to this inclusion, the following calculation was done: 4199/10938(total scope 1 and 2 emissions in the previous reporting year) tCO2e which is a 23% increase.
Change in physical operating conditions	0	No change	0	There were no changes to the physical operating conditions or weather conditions that significantly influenced the way the Murray & Roberts' businesses operated. Thus, no changes in the reported emissions were attributed to this category.
Unidentified	0	No change	0	There were no unidentified contributors to our total scope 1 and 2 emissions increase in the reporting year.
Other	0	No change	0	No additional drivers for the year-on-year changes in Murray & Roberts' emission profile were identified.

## 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 0% but less than or equal to 5%

### 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	31382	31282
Consumption of purchased or acquired electricity	<Not Applicable>	0	11659	11659
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>	118	<Not Applicable>	118
Total energy consumption	<Not Applicable>	118	43040	43158

**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**

**MWh fuel consumed for self-generation of electricity**

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

**Other biomass**

**Heating value**

**Total fuel MWh consumed by the organization**

**MWh fuel consumed for self-generation of electricity**

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

**Other renewable fuels (e.g. renewable hydrogen)**

**Heating value**

**Total fuel MWh consumed by the organization**

**MWh fuel consumed for self-generation of electricity**

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

**Coal**

**Heating value**

**Total fuel MWh consumed by the organization**

**MWh fuel consumed for self-generation of electricity**

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

**Oil**

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

0.36

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0.36

**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**

**Gas**

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

5.85

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

5.85

**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**

Natural gas: 1.54 MWh. LPG: 4.31 MWh.

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

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

31376

**MWh fuel consumed for self-generation of electricity**

10096

**MWh fuel consumed for self-generation of heat**

21280

**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**

None.

**Total fuel**

**Heating value**

LHV

**Total fuel MWh consumed by the organization**

31382

**MWh fuel consumed for self-generation of electricity**

10096

**MWh fuel consumed for self-generation of heat**

21286

**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**

**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	10096	10096	118	118
Heat	21286	21286	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

**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)**

5435

**Consumption of self-generated electricity (MWh)**

560

**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)**

0

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

---

**Country/area**

Australia

**Consumption of purchased electricity (MWh)**

2097

**Consumption of self-generated electricity (MWh)**

9622

**Is this electricity consumption excluded from your RE100 commitment?**

&lt;Not Applicable&gt;

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

0

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

0

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

---

**Country/area**

Canada

**Consumption of purchased electricity (MWh)**

445

**Consumption of self-generated electricity (MWh)**

0

**Is this electricity consumption excluded from your RE100 commitment?**

&lt;Not Applicable&gt;

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

0

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

0

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

---

**Country/area**

United States of America

**Consumption of purchased electricity (MWh)**

0

**Consumption of self-generated electricity (MWh)**

0

**Is this electricity consumption excluded from your RE100 commitment?**

&lt;Not Applicable&gt;

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

0

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

0

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

---

**Country/area**

Zambia

**Consumption of purchased electricity (MWh)**

0

**Consumption of self-generated electricity (MWh)**

0

**Is this electricity consumption excluded from your RE100 commitment?**

&lt;Not Applicable&gt;

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

0

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

0

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

---

**C9. Additional metrics**

---

**C9.1**

---

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

**Description**

Other, please specify (We do not have additional climate-related metrics)

**Metric value**

0

**Metric numerator**

Not Applicable

**Metric denominator (intensity metric only)**

Not Applicable

**% change from previous year**

0

**Direction of change**

No change

**Please explain**

**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**

2022 Sustainability Report (4).pdf

**Page/ section reference**

Page 98 and 99

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

100

**C10.1b**

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

**Scope 2 approach**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

2022 Sustainability Report (4).pdf

**Page/ section reference**

Attach group sustainability report

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

100

**C10.2**

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

Yes

**C10.2a**

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C6. Emissions data	Year on year change in emissions (Scope 1)	ISAE300 (revised)	This indicator (i.e., year on year movements) is calculated as part of the audit procedures by the external assurance providers. Even though these are not listed as separate KPIs on the assurance statement, it is a part of the audit methodology during the phase of analysing and reviewing the relevant data and calculations on a sample selective basis. The year-on-year analytic assists the auditors in understanding if there were any major movements at a Group level before diving deeper into the individual KPIs (for example, changes in project phases, acquisitions, and divestments, etc).
C7. Emissions breakdown	Year on year change in emissions (Scope 1)	ISAE300 (revised)	This indicator (i.e., year on year movements) is calculated as part of the audit procedures by the external assurance providers. Even though these are not listed as separate KPIs on the assurance statement, it is a part of the audit methodology during the phase of analysing and reviewing the relevant data and calculations on a sample selective basis. The year-on-year analytic assists the auditors in understanding if there were any major movements at a Group level before diving deeper into the individual KPIs (for example, changes in project phases, acquisitions, and divestments, etc).indicator (i.e., year on year movements) is calculated as part of the audit procedures by the external assurance providers. Even though these are not listed as separate KPIs on the assurance statement, it is a part of the audit methodology during the phase of analysing and reviewing the relevant data and calculations on a sample selective basis. The year-on-year analytic assists the auditors in understanding if there were any major movements at a Group level before diving deeper into the individual KPIs (for example, changes in project phases, acquisitions, and divestments, etc).
C6. Emissions data	Year on year change in emissions (Scope 2)	ISAE300(revised)	This indicator (i.e., year on year movements) is calculated as part of the audit procedures by the external assurance providers. Even though these are not listed as separate KPIs on the assurance statement, it is a part of the audit methodology during the phase of analysing and reviewing the relevant data and calculations on a sample selective basis. The year-on-year analytic assists the auditors in understanding if there were any major movements at a Group level before diving deeper into the individual KPIs (for example, changes in project phases, acquisitions, and divestments, etc).
C7. Emissions breakdown	Year on year change in emissions (Scope 2)	ISAE300(revised)	This indicator (i.e., year on year movements) is calculated as part of the audit procedures by the external assurance providers. Even though these are not listed as separate KPIs on the assurance statement, it is a part of the audit methodology during the phase of analysing and reviewing the relevant data and calculations on a sample selective basis. The year-on-year analytic assists the auditors in understanding if there were any major movements at a Group level before diving deeper into the individual KPIs (for example, changes in project phases, acquisitions, and divestments, etc).
C6. Emissions data	Year on year change in emissions (Scope 1 and 2)	ISAE300(revised)	This indicator (i.e., year on year movements) is calculated as part of the audit procedures by the external assurance providers. Even though these are not listed as separate KPIs on the assurance statement, it is a part of the audit methodology during the phase of analysing and reviewing the relevant data and calculations on a sample selective basis. The year-on-year analytic assists the auditors in understanding if there were any major movements at a Group level before diving deeper into the individual KPIs (for example, changes in project phases, acquisitions, and divestments, etc).
C7. Emissions breakdown	Year on year change in emissions (Scope 1 and 2)	ISAE300(revised)	This indicator (i.e., year on year movements) is calculated as part of the audit procedures by the external assurance providers. Even though these are not listed as separate KPIs on the assurance statement, it is a part of the audit methodology during the phase of analysing and reviewing the relevant data and calculations on a sample selective basis. The year-on-year analytic assists the auditors in understanding if there were any major movements at a Group level before diving deeper into the individual KPIs (for example, changes in project phases, acquisitions, and divestments, etc).

**C11. Carbon pricing**

**C11.1**



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

No, but we anticipate being regulated in the next three years

**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 implemented the Carbon Tax Act, which has placed a tax on qualifying GHG emissions from June 2019. For stationary combustion activities, a threshold of 10 MW(th) input capacity has been set, meaning that organisations that control stationary combustion equipment with a cumulative capacity exceeding this threshold are subject to the tax. We evaluate our total installed capacity on an annual basis and have not exceeded the carbon tax threshold since its inception. Our installed capacity has reached 8 MW(th) this year, indicating that we may become subject to the carbon tax in the next three years.

However, our stationary combustion activities consist only of diesel combustion in generators. In South Africa, a carbon fuel levy has been implemented on diesel & petrol, and these GHG emissions are effectively taxed at the pump already. Diesel & petrol GHG emissions are therefore added and subtracted from the carbon tax calculation. As a result, should Murray & Roberts become subject to the South African Carbon Tax Act, there would be no additional tax, but there will be a reporting requirement which will cost additional management time to service on an annual basis.

Additionally, the requirement for reporting in terms of South Africa's National Greenhouse Gas Emissions Reporting regulations are the same as for the carbon tax. Murray & Roberts would therefore be required to report its GHG emissions to the Department of Forestry, Fisheries & the Environment as well as to the South African Revenue Service in terms of the carbon tax.

As Murray & Roberts already quantifies and reports its scope 1 GHG emissions on an annual basis, we anticipate being able to service these reporting requirements.

South Africa's Climate Change Bill is presently being considered in Parliament. It is anticipated that, once enacted, organisations with annual scope 1 GHG emissions of more than 100 000 tCO<sub>2</sub>e will be required to apply for carbon budgets and submit GHG emissions mitigation plans to the DFFE. As our scope 1 GHG emissions are below this threshold, we do not anticipate being subjected to this requirement.

In 2016, Australia enacted the safeguard mechanism which requires facilities that emit at least 100 000 tCO<sub>2</sub>e a year to purchase carbon credits to offset their excess emissions. The total scope 1 and 2 emissions at our Australian operations amounted to 6047 tCO<sub>2</sub>e in the reporting year, this is well below the threshold and we do not anticipate being subject to the safeguard mechanism in the near future.

**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 customers/clients

Yes, other partners in the value chain

**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**

85

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

0

**Please explain the rationale for selecting this group of customers and scope of engagement**

Given the impacts from changing climate, environmental concerns, and the need to reuse wastewater, the Power, Industrials & Water platform, specifically Murray & Roberts Water (MRW) has expanded its business portfolio to include more wastewater treatment and seawater desalination capabilities.

In 2018, we invested in the class leading Organica Water wastewater treatment technology and in collaboration with the eThekweni Water and Sanitation Department in South Africa, we piloted this innovative technology at the Verulam wastewater treatment facility in KwaZulu-Natal in 2019. The technology uses active biofilms on natural plants and engineered root structures to treat wastewater, producing 50% less sludge than the conventional plant and using 45% less energy than originally anticipated. MRW operated the facility for two years in order to demonstrate the technology with the aim of providing this solution to SADC countries in response to their need for a sustainable water supply. We hosted visits from various municipalities, water boards, consultants, developers, funding institutions and prospective public and private sector clients. Accordingly, engagement took place through site visits or business development meetings.

The plant has since been relocated to the V&A Waterfront in Cape Town where we have a 10-year supply contract. The purpose of this arrangement is to further showcase the technology to a broader and more diverse audience. We will continue using it as a means to demonstrate the potential and performance of the technologies to potential clients using guided tours, site visits and business development meetings.

The "percentage of customers by number" is calculated from the customer base at the MRW division which is 85% of MRW's total customer base. Engagements with clients and affected stakeholders early in the project phase has proven to be an effective and proactive step in aligning expectations and plans.

**Impact of engagement, including measures of success**

Organica's research has shown that the complex ecology that develops in the system delivers high water quality aligned to international specifications and breaks down a large range of pollutants with higher efficiency.

We consider our engagement to be effective when it secures an opportunity to bid for a wastewater treatment opportunity. We consider the engagements on the Verulam Organic demonstration wastewater facility to have been a success given that it enabled us to secure a 10-year service contract with the V&A Waterfront. This is considered to be a significant breakthrough, as it will be the first commercialized application of the Organica Water technology in South Africa.

**C12.1d**

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

Murray & Roberts' overall rationale for climate-related engagement is two-fold:

- 1) to identify, develop, win, and deliver projects for our climate-related service offerings (clients, innovation partners and project delivery partners); and 2) to continuously improve climate-related performance, reporting and the identification of opportunities to reduce climate-related impacts on site and in the supply chain (employees, suppliers, clients, project delivery partners, communities, and academia).

All engagement is guided by our public stakeholder engagement policy and takes place using a myriad of dialogue mechanisms at the corporate, business, operation, and community levels across the Group. We interact with these stakeholders through technology (virtual meetings, webcasts, website, intranet, social media, and email), face-to-face engagement (meetings, training, presentations, workshops, and conferences) and print (newsletters/brochures, internal magazines and external reports, including the integrated and sustainability report). More details on the rational, methodology and success measurement specific cases of engagement are provided below. Engagements with clients and affected stakeholders early in the project phase has proven to be an effective and proactive step in aligning expectations and plans.

The Power, Industry and Water platform undertakes continuous engagements with potential clients as part of its Business Development initiatives to secure renewable energy and wastewater opportunities. The platform also undertakes continuous engagements with potential clients on reducing emissions and energy consumption as part of these Business Development initiatives and in response to potential or tendered projects. Initiatives that have been explored include reducing site dependencies on diesel and fossil fuels and running our sites partly off solar. However, these initiatives are subject to tenders being awarded and a site presence being established.

Cementation Americas and Terra Nova Technologies (TNT) (both divisions of the Mining platform) are currently engaging with academia and the mining industry at large through the publishing of papers, attendance of academic and industry conferences, and the hosting of webinars on two new technology offerings. Dry stack tailings (offered by TNT) provide mine owners as alternative, water-efficient means of managing their tailings waste and virtually eliminating ground water contamination risk from tailings seepage. Cementation Americas is developing injection hoisting technologies as an alternative to conventional hoisting or trucking ore/waste rock from underground mines. The benefits include the reduction of carbon emissions through reduction/elimination of underground mine trucks as well as lower electricity consumption from ventilation demand. One study estimated the emission reduction potential at 4,500 tonnes of CO<sub>2</sub>e. The intention with this engagement is to identify research and development partnerships to access grant funding and further test the properties and potential of the technologies.

**C12.2**

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

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

**(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?****Row 1****External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

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

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

Yes

**Attach commitment or position statement(s)**

M&R Climate Change Position Statement.pdf

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

In 2018 and 2019 Murray & Roberts undertook a risk and opportunity identification assessment aligned to the TCFD. The assessment included identifying national policies, in the countries in which we operate that may impact our direct and indirect operations and the subsequent impact of these. Assessments such as these indicate that our internal strategic intentions are aligned to external engagement with stakeholders on policy developments related to climate change.

The Group also recently released its climate change position statement which articulates our understanding of climate change; its links to our business strategy and operating context; and our commitment to addressing the climate change challenge. The intention of this statement is to clarify our position to stakeholders and provide direction and confidence to management and employees across business divisions and geographies to act in a way that aligns with our overall climate change strategy.

Furthermore, adherence to the Group's HSE policy and associated sustainability carbon and energy standards (which explicitly provides the Group's position, intentions, targets, and responsibilities on various climate change-related issues) are mandatory for all employees. Awareness and understanding of these policies and standards are continually embedded through capacity building, awareness raising and employee training. The HSE committee monitors performance with regard to implementation of the HSE Framework making recommendations as required.

Furthermore, our Group HSE Director coordinates and manages our climate change strategy, and everything of relevance is reported to the Board for further consideration against the strategy.

**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 (Australian Constructors Association (ACA))

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

Consistent

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

No, we did not attempt to influence their position

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

The ACA has committed to supporting and developing a sustainable construction industry. Accordingly, it requires all ACA members to commit to the ACA Charter which recognises that climate change is a growing concern for our workforce and the society in which the industry operates and commits members to reducing carbon emissions from its activities. ACA has released a report to support the industry in accelerating a net zero future through the design and construction of the infrastructure pipeline.

In terms of regulatory engagement, ACA has submitted a response to the proposed Australian Emission Reduction Scheme. ACA considers that the Government's preferred approach as outlined in the Green Paper does not contemplate the unique emissions profile of the construction industry and the difficulties that the industry will have in engaging with the scheme as proposed. Under the Emissions Reduction Scheme proposed by the Australian Government, principal contractors will be responsible for reporting energy and emissions from a large number of subcontractors working on sites at various times. The ACA submits that the process of collection, consolidation and verification of emissions data collected from subcontractors is administratively burdensome for principal contractors and requires review.

Additionally, principal contractors are limited in their influence on the design, materials selection and overall construction approach taken on a project as these specifications are dictated by clients or designers' pre-contract. The ACA considers it important to note that the bulk of emissions for the construction industry occur either upstream during the manufacture of materials (e.g., steel, cement) or downstream in asset operation, maintenance and management. Schemes such as EEO and the currently proposed framework based on NGER data fail to recognize these externalities to construction activity. In this manner, it is highly likely that actual emissions reductions will be the result of emissions being shifted into manufacturing or asset performance (e.g., building prefabrication).

The ACA considers this a fault with the proposed scheme which needs to be carefully addressed. The ACA submits that these difficulties warrant special attention and further consideration than they have currently received under the proposed Emissions Reduction Fund scheme.

ACA's position on climate change is consistent with ours and we are not attempting to influence their position.

**Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)****Describe the aim of your organization's funding**

<Not Applicable>

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

No, we have not evaluated

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**

2022 Sustainability Report (4).pdf

**Page/Section reference**

Page 27,34 and 81

**Content elements**

Governance  
 Strategy  
 Emissions figures  
 Other metrics

**Comment**

None

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	<p>Murray &amp; Roberts' Environmental Risks &amp; Incidents Reporting Standard includes considerations related to biodiversity and nature. The Group's internal environmental incidents, fines and litigation reporting system allows for the collection of biodiversity-related impacts, namely unauthorised animal injury or death, and unauthorised flora removal. The environmental incident reporting system also allows for the collection of broader incidents which may have a potential impact on nature, including:</p> <ul style="list-style-type: none"> <li>- Spillage of hydrocarbon or other contaminating substance</li> <li>- Unauthorised water discharge</li> <li>- Erosion and sedimentation</li> <li>- Excessive noise outside of legal boundary</li> </ul> <p>Incidents reported as Level 1 (low) or Level 2 (minor) are handled at entity level. Level 3 (serious) environmental incidents are reported to the Operating Company Managing Director and Platform HSE Executive, and the incident is presented at the entity's Executive Committee or at a Board meeting. Level 4 (major) and Level 5 (critical) environmental incidents are reported to the Corporate Office and are presented in a Board meeting. Level and 5 environmental incidents are also presented at a meeting of the HSE Committee of the Board, and a summary report to the Holdings Board.</p> <p>In the reporting year, we developed a Biodiversity Management Standard to guide management on managing biodiversity on projects. The standard expands on the biodiversity considerations in the Risks &amp; Incidents Reporting Standard. The standard requires considerations of biodiversity related standards, identifying the key biodiversity impacts, implementation, and management as well as offsetting and restoration to be incorporated in the development of a management plan. The responsibility falls on management to monitor key biodiversity parameters throughout the life of the project to evaluate changes resulting from both internal and external factors</p>	<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	No, but we plan to do so within the next 2 years	<Not Applicable>	<Not Applicable>

### C15.3

---

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

#### **Impacts on biodiversity**

**Indicate whether your organization undertakes this type of assessment**

No and we don't plan to within the next two years

**Value chain stage(s) covered**

<Not Applicable>

**Portfolio activity**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

#### **Dependencies on biodiversity**

**Indicate whether your organization undertakes this type of assessment**

No and we don't 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 (Ecology sensitive area)

**Country/area**

South Africa

**Name of the biodiversity-sensitive area**

Nseleni River

**Proximity**

Data not available

**Briefly describe your organization's activities in the reporting year located in or near to the selected area**

Opti Power's Nseleni project is constructing 132KV lattice structure overhead lines within the operating unit.

**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**

Physical controls

Operational controls

Restoration

**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**

We have developed an Environmental Management programme that contributes to the preservation of biodiversity by reducing the effects of potential impacts associated with disturbances from construction of a powerline.

Impacts on biodiversity include disturbance of ground cover which can result to scouring of the ground which can lead to erosion. The effect of disturbance to the ground is reduced by applying less disturbing removal procedures of vegetation, rock outcrops or topsoil. Extended digging is discouraged. Excavation should be limited at bases of tower legs to limit disturbance to relatively smaller work areas. Disturbed ground needs to be rehabilitated after construction. Care during survey was taken into consideration to avoid sensitive habitats such as river systems (riparian areas), wetlands, drainage lines and riverine vegetation.

Further, rehabilitation activities undertaken to return land that had been damaged to some degree of its former state or stable state which will be intact and not become degraded include, rehabilitation of disturbed areas, clearance of debris, fitting recommended flight diverters along specified spans.

**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	No, we are not taking any actions to progress our biodiversity-related commitments, but we plan to within the next two years	<Not Applicable>

**C15.6**

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

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No, we do not use indicators, but plan to within the next two years	Please select

**C15.7**

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

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Impacts on biodiversity	Page 30 2022 Sustainability Report (4).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.**

None

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	Other C-Suite Officer: Group HSE and Risk Director	Director on board

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
-----------------------	--

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Please select

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

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