THIESS


# Climate Report 2022

Integrity Accountability Innovation Delivery | **SAFETY**

## Acknowledgement of Country

Thiess acknowledges and respects the history and contributions of Indigenous peoples in all countries and regions where we operate. At our workplaces across the world, we recognise our responsibility to live and work on country, and with communities, respectfully and with care.

This report was produced on the lands of the Yuggera and Turrbal peoples. We honour and respect Aboriginal and Torres Strait Islander peoples as having the longest continuous culture on earth and recognise them as the Traditional Owners and Custodians of this land.

We pay our respects to their Elders past and present.

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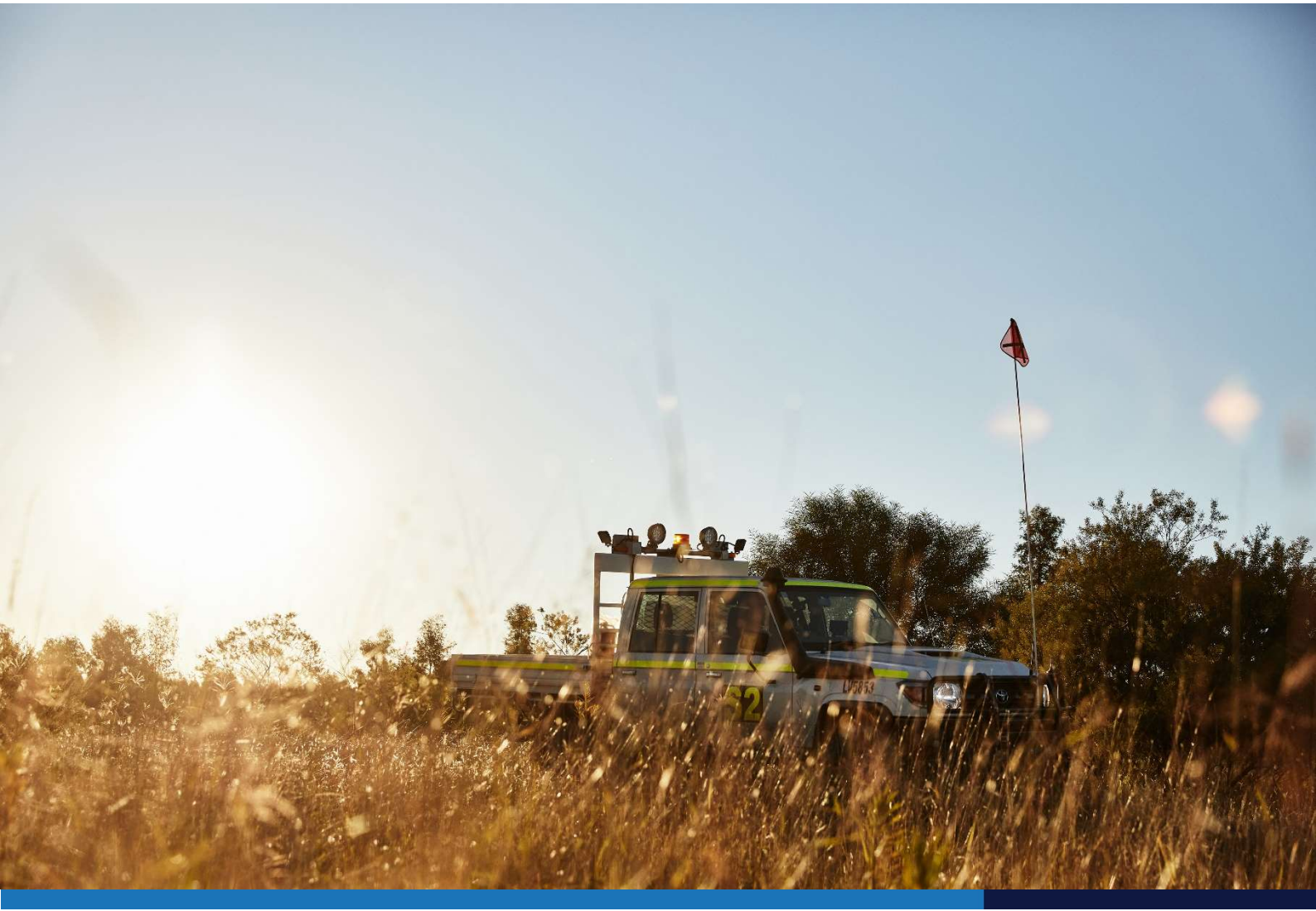


## About this report

This report uses the Task Force on Climate-related Financial Disclosures (TCFD) framework to set out how Thiess manages climate related risks and opportunities, our climate related ambitions, and how we seek to test the resilience of our business to the potential impacts of climate change over the coming decades.

In this report, references to **the Thiess Group** or **the Group** collectively include Thiess Pty Ltd, Fleetco, Thiess Rehabilitation, Thiess Contractors Indonesia, Thiess USA, Thiess Mongolia, Thiess Chile, Thiess India, RTL Mining and Earthworks Pty Ltd (RTL, 88% Thiess Pty Ltd owned) and MACA Ltd (MACA).

In this report, references to **Thiess** include all these entities excluding RTL and MACA.

This report provides a progress update on climate related information and actions for Thiess in 2022. In 2023, further work will be completed to align Group climate reporting and ambitions for all companies, and the Group plans to provide more detailed commentary on MACA and RTL in future climate reporting.

The Thiess Group 2022 Sustainability Report includes further detail on the Group's ambitions and commitments and progress towards integrating environment, social and governance (ESG) considerations into the Group's wider decision making. The Thiess Group 2022 Sustainability Report is available at thiess.com.

Note, data presented in this 2022 report is not externally assured.

### Important information

This report includes forward-looking statements regarding the plans, strategies, objectives, and commitments of Thiess in relation to carbon emissions reduction and identifying, assessing and responding to potential risks, impacts and opportunities associated with climate change that are based on Thiess' expectations as at the date of this report and/or the date of Thiess' planning processes.

In line with the TCFD framework, the statements presented in this report relate to *potential* climate exposures in the future. This report does not predict or purport to suggest likely future global warming outcomes or possible policy, regulatory, market or technology environments.

These forward-looking statements are subject to known and unknown risks, assumptions, uncertainties, contingencies and other factors many of which are beyond Thiess' control, and may cause the actual results, performances or achievements of Thiess to differ materially from those expressed or implied in the statements contained in this document.

The forward-looking statements in this report are not statements of fact, guarantees or predictions, and have not been prepared to provide any guidance, in relation to the future performance of Thiess. No representation or warranty, express or implied, is given as to the accuracy, completeness or correctness, likelihood of achievement or reasonableness of any forward-looking information contained in this report.

The scenario analysis has been informed by climate scenarios that have been used to stress-test possible risk exposure and support strategic decision making. Scenario analysis utilises a range of scenarios and metrics to understand the climate related impacts of *plausible futures.* Scenarios have intrinsic assumptions and limitations, and the future is inherently uncertain, and it is difficult to predict which, if any, of the scenarios might eventuate. Where our analysis or elements of it relate to the future (such as a projection or forecast), actual results are likely to be different from those produced by the analysis and those differences may be material. Climate scenarios do not constitute definitive outcomes or probabilities, and scenario analysis relies on assumptions that may or may not be, or prove to be, correct and may or may not eventuate. Climate scenarios may also be impacted by additional factors to the assumptions disclosed.

Except as required by applicable regulations or by law, Thiess does not undertake any obligation to publicly update or review any forward-looking statements, whether as a result of new information or future events.

## Introduction

The energy transition is driven by the global need to address climate change. The mining sector will be integral to this transition as it sources and supplies the critical minerals and metals likely to be needed to enable cleaner, more efficient energy technology. Thiess is working to decarbonise and diversify our business to play an active part in the world's journey to net zero carbon emissions.

This report, which uses the TCFD framework to organise Thiess' disclosures, aims to describe our actions relevant to Thiess' value chain and respond to the potential impacts of the climate scenarios presented in this report. This includes our intended decarbonisation pathway and diversification plans to rebalance our thermal coal exposure.

Across 2022, leading global bodies continued to emphasise the need for climate change action:

- The World Economic Forum once again highlighted climate action failure and extreme weather as the most severe economic risks globally across all sectors.
- The Intergovernmental Panel on Climate Change finalised its adaptation and mitigation Sixth Assessment Reports, which emphasised that current climate targets and policies are insufficient to cap the planet's warming to 1.5ºC and that increasing weather extremes often mean an inability to adapt and reduce exposures and vulnerabilities to future climate changes.
- The International Energy Agency's Global Energy Review showed that the world continues to grow in $CO_2$ emissions despite a brief reduction of 5.2% during the Covid-19 pandemic.
- The International Sustainability Standards Board (ISSB), established following the 2021 United Nations 26th Climate Change Conference, is developing a global climate reporting standard and in October 2022, announced that the standard will require businesses to disclose Scopes 1, 2 and 3 emissions, applying the current Greenhouse Gas Protocol Corporate Standard (GHG Protocol).

Thiess' 2021 and 2022 climate related activities enabled us to set additional climate targets, and better align to future climate reporting standards and frameworks. In 2022:

- the newly developed and Board-approved Thiess Sustainability and Environmental Policies were introduced, and included commitments to reduce greenhouse gas emissions, support the United Nations Sustainable Development Goals and the Paris Agreement, and make disclosures using the Global Reporting Initiative (GRI – see Thiess Group Sustainability Report) and TCFD frameworks
- we reassessed our emission boundary definitions according to the GHG Protocol to measure and report emissions consistently across our value chain (see *Defining our emissions* section)
- we expanded the mapping of Scope 3 emission estimates across our value chain (see *Metrics and targets* section) with the aim of embedding Scope 3 emissions considerations into procurement and partnership decisions, and prioritising areas for abatement
- we integrated emissions tracking, fleet modelling and associated metrics into our business strategy and are working towards implementing these at site level
- with the support of external climate experts, Deloitte, we undertook physical and transition climate scenario analysis, in relation to four priority climate related risks and opportunities, to stress test and inform our business strategy and further develop our roadmap to decarbonise our operations
- following a change in our emissions boundary definitions, as described in the *Defining our emissions* section, we reaffirmed our net zero by 2050 target to be inclusive of our Scope 1 and 2 emissions as well as emissions from Thiess operated fleet (which were included in our Scope 1 in 2021 and are now included in Scope 3). These are the same emissions sources included in our net zero by 2050 target in our 2021 report.

**Net zero by 2050 committment**

INCLUDES SCOPE 1, 2 AND SCOPE 3 EMISSIONS FROM DIESEL COMBUSTION IN OPERATED FLEET

To assist in the delivery of the Group's diversification strategy, including the commitment to reduce the proportion of total revenue from thermal coal to less than 25% by the end of 2027, the Group acquired MACA in late 2022 – a metals mining, infrastructure and construction services business headquartered in Western Australia. This acquisition delivered an immediate step change in commodity diversification and will allow the Group to play a larger role in supplying the raw materials critical to the energy transition. The Group also launched Thiess Rehabilitation in early 2022 to service the growing rehabilitation and mine closure market with our industry-recognised, mined land rehabilitation capabilities.

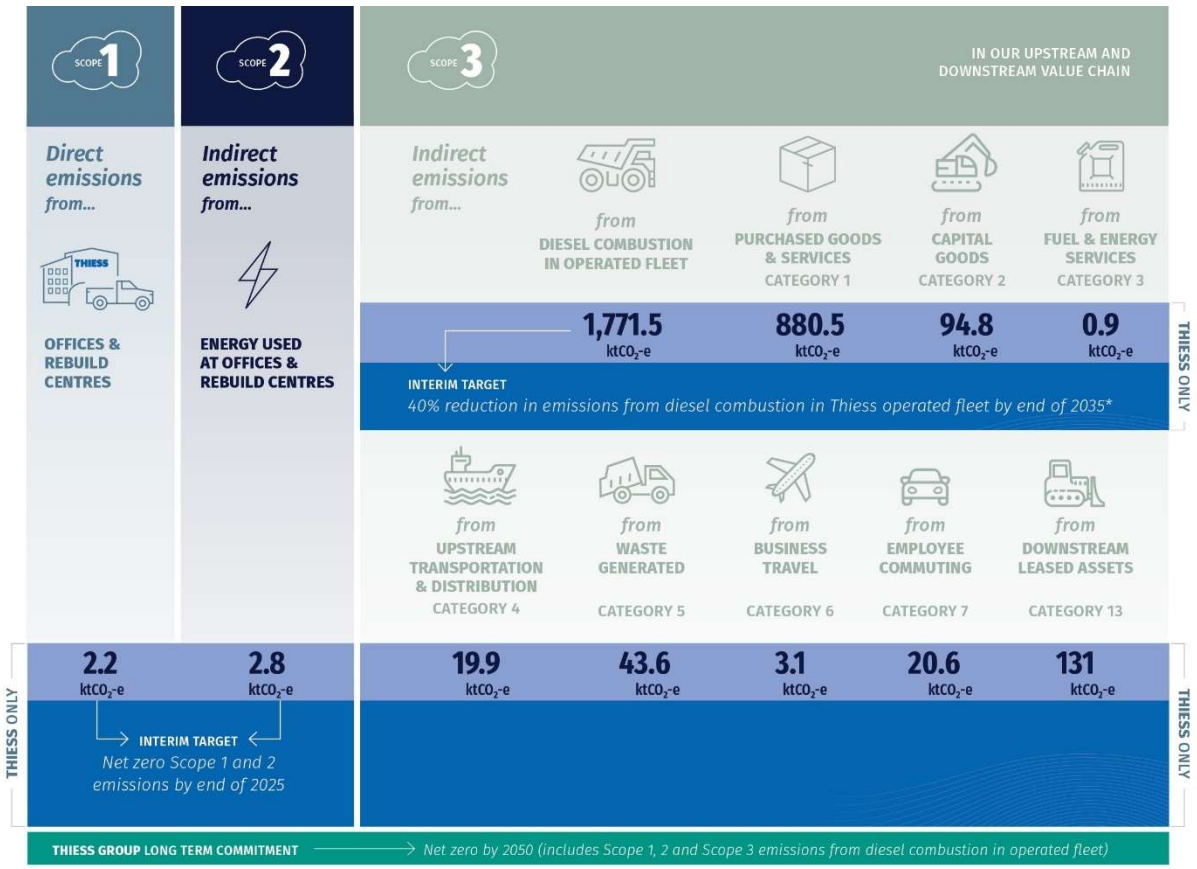
## Defining our emissions

Consistency in accounting for the emissions in our value chain is important to Thiess as we deliver on our emission reduction commitments. To better understand our carbon footprint, we completed a detailed review of Thiess emissions in 2022 with the help of external advisors, and aligned our reporting boundaries with our clients' reporting approaches, as well as with widely-used global reporting standards including the GHG Protocol, GRI, and *National Greenhouse and Energy Reporting Act 2007 (NGER Act 2007).*

Our emissions definitions as of 2022 are:

- **Scope 1:** direct GHG emissions from facilities where Thiess has operational control, and no reporting transfer certificate (RTC) is in place (as defined under the *NGER Act 2007*). In 2022 these are emissions from Thiess owned or controlled offices and rebuild centres.
- **Scope 2:** indirect GHG emissions from purchased energy at facilities where Thiess has operational control and no RTC is in place. In 2022 these are emissions from electricity at Thiess owned or controlled offices and rebuild centres.
- **Scope 3:** all other indirect GHG emissions resulting from activities in Thiess' value chain, but outside of our operational control. This includes emissions from diesel combustion in Thiess operated fleet. In 2022, our Scope 3 disclosure boundary was expanded and now includes emission estimates for categories 1, 2, 3, 4, 5, 6, 7 and 13 as defined in the GHG Protocol.

As a result, emissions associated with diesel combustion in the mining equipment Thiess operates, which were classified as Scope 1 in 2021, are now included as Scope 3 in 2022 – please see below for inclusions in our emissions reporting. This has not changed our net zero by 2050 target, which relates to the same emissions sources in 2021 and 2022.




Scope 3 increased from only 2 categories in 2021 to include eight in 2022. Diesel combustion in operated fleet has also been moved from Scope 1 to 3 in 2022.

*compared to a 2019 baseline

*Please see Defining our emissions section for further details on the recharacterization of our Scope 3 emissions compared to*

## 2023 and beyond

Our Climate Action Roadmap at the end of this report currently summarises Thiess' future ambitions for implementation and integration of climate actions, business-wide climate education and awareness, and collaborations/partnerships. In 2023, the Group will look to expand the roadmap and incorporate actions for all Group companies.

In 2023, Thiess aims to provide climate change action training and support to our staff globally, and incorporate longer term climate considerations into operations scheduling to seek to minimise any climate related delays and disruptions. The Group also plans to identify and integrate the emissions sources and data capture systems of MACA as they further incorporate all Group companies into the Thiess sustainability reporting framework.

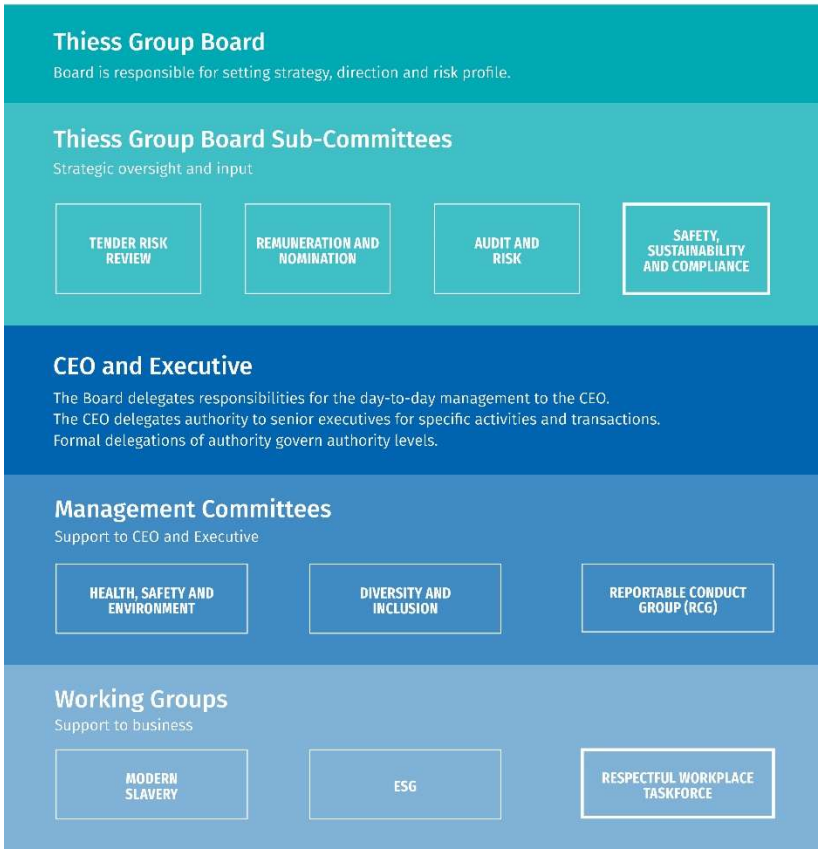
From 2023 and beyond, Thiess is working towards a more holistic ESG approach across our business. We recognise our climate journey requires collaboration and engagement with policy makers, clients and suppliers to encourage an orderly transition to net zero. We aim to reduce our emissions profile in the short and long term, and also to contribute to the decarbonisation of the mining industry, work with our clients to assist in delivery of their climate ambitions and improve our preparedness and adaptation to possible severe weather events affecting our sites.

We will endeavour to monitor and quantify the financial impacts of climate change on our business, across our value chain, taking into consideration long term decarbonisation and portfolio diversification and adaptation when considering short term opportunities. We are setting our business up with the right skills to allow us to adapt to meet climate challenges head on in the coming decades.

# Governance

## Oversight and management through our Board and sub-committees

Our 2021 Climate Report outlined our climate related governance structure as shown below, with our Thiess Group Board of Directors (Board) meeting quarterly along with four Board sub-committees. The Safety, Sustainability and Compliance Committee (SSCC) was established in 2022. Our SSCC is responsible for overseeing the management of climate related specific risks in the organisation's wider risk management processes, supported by the ESG Working Group.




Throughout 2022, the Board have discussed climate issues and climate action progress, and approved the newly developed Thiess Sustainability Policy, revised Thiess Environment Policy and the SSCC Charter.

Our new Sustainability Policy includes a commitment to contribute to a lower-carbon future by working with our clients to help enable the global energy transition. Our Environmental Policy establishes a focus on climate management and disclosure of climate action as we work to decarbonise our operations.

Throughout 2022, the Board was provided with quarterly updates on Thiess' management of climate related risks and opportunities and the evolving international climate policy landscape prepared by the global management team with cross-functional and regional input. All Board sub-committees meet quarterly, and their key climate related focus areas and outcomes in 2022 are listed below:

- The **Remuneration and Nomination Committee** considers climate related and ESG key performance indicators (KPIs) in appointment and remuneration recommendations. In 2022, Thiess implemented amendments to the executive remuneration short term incentive (STI) policy to include evaluation of performance on sustainability and climate action. In 2023 Thiess plans to update our executive STI policy to include three sustainability and climate action measures – work in hand in metals and minerals, emissions reduction initiatives and safety leadership – worth 25%. Diversity will also be a key focus for the executive and the Group will investigate the inclusion of these sustainability and climate measures in the broader remuneration policy for senior leaders, to reflect their implementation at the executive level.

- The **Audit and Risk Committee** reviews the Enterprise Risk Register and Report and assists the Board in fulfilling its responsibilities relating to corporate and risk management governance and financial reporting, including climate and sustainability risks, and commodity diversification. In 2022, Thiess incorporated transition and

physical climate risk into the enterprise risk management (ERM) approach, and we plan to continue developing detail on these risks and mitigating actions in 2023.

- The **Tender Risk Review Committee** considers climate risks and opportunities in new work, and periodically evaluates processes to ensure ongoing improvement and integration of climate considerations into Thiess' strategy, adaptation efforts, and climate resiliency across all projects and tenders. In 2022, Thiess commenced a review of our Tendering and Work Winning Policy and Tender Risk Review Committee Charter to reflect our ambition to pursue opportunities with sound ESG credentials and adopt a risk-based approach with appropriate regard for climate change risk along with other relevant risks and opportunities. This update is expected to be completed in 2023.

- The recently established **Safety, Sustainability and Compliance Committee** first met in May 2022, assisting the Board to oversee strategic direction in managing climate risks and opportunities; reviewing and assessing associated resources, processes and culture to meet our sustainability and climate objectives; and ensuring business compliance with internal, regulatory and industry climate requirements. Throughout 2022, the committee focused on action to meet sustainability targets and reducing emissions.

## Management of climate risks and opportunities

Oversight of the identification, assessment and management of our climate risks and opportunities is carried out by the CEO, executive team and key senior leaders. This includes integrating climate considerations into our strategy, developing Board and sub-committee charters for climate action, and undertaking efforts to map our emissions and decarbonisation pathways and other climate related projects.

Our leaders are working to ensure climate related activities improve awareness across Thiess, align to our ESG vision to focus on being a leading sustainable mining services provider, and contribute to a lower-carbon future.

In 2022, we delivered two foundational climate resilience initiatives, as listed below. The outputs from these initiatives will assist Thiess in reviewing and revising our business strategy, managing climate related risks (see *Risk management* section), integrating climate issues into governance documentation, and support development of climate related frameworks and targets (see *Metrics and targets* section) in 2023 and beyond.

1. A **physical and transition climate scenario analysis** mapped to 2050 (see *Strategy* section), covering four priority climate related risks and opportunities (after expanding and prioritising risks and opportunities identified in 2021): analysis outcomes were discussed with the Thiess executive team and SSCC in late 2022, to increase their understanding of potential climate impacts that may need to be considered in future business decisions.
2. Further development of our **decarbonisation plan, enhanced emissions data capture, revised boundary definitions for our emissions** and **expanded Scope 3 disclosure boundary** (see *Metrics and targets* section): the outcomes of these are considered in our risk management, evaluation of climate emissions-based metrics and targets, and decarbonisation planning in upcoming tenders and existing projects.

Thiess is committed to empowering employees on climate change action and environmental management through upskilling and training, including skills development to assist with tracking climate related target/metric parameters and encouraging the identification of new climate related opportunities.

In 2022, we began building climate capability and understanding across management and Board levels, while engaging key staff on identifying and prioritising climate risks and opportunities (including awareness of major climate frameworks such as the TCFD). This included introduction of our first Thiess Sustainability Policy, update of our Environmental Policy to include climate action, update of our online environmental induction to include our updated policy commitments and consideration of climate risk in business risk assessment processes. A cross-functional team also worked to implement a new Power BI app to provide better interrogation and visual representation of emissions data.

In 2023 and beyond, we intend to use the 2022 climate analysis outcomes to collaborate with our people on our sustainability and climate targets, and identify and implement decarbonisation initiatives. We aim to develop a climate education training and awareness program to upskill employees across the business, so they understand Thiess' approach on climate and their role in delivering our commitments and ambitions. Our upskilling objectives also include improving communications with our clients and suppliers to investigate alignment with ESG objectives to identify opportunities to work together on, and jointly promote, climate change mitigation efforts.

# Strategy

## Climate related risks and opportunities

The impacts of climate change are significant, varied and affect all aspects of businesses and communities as the world transitions to lower-carbon economies. Thiess acknowledges we have a role to play in working with our clients and suppliers to reduce greenhouse gas emissions across the value chain.

The metals and mining sector is a key enabler of the energy transition as the demand for a wider range of mined commodities accelerates. The Group is working to decarbonise and diversify the wider business to play an active part in the world's journey to net zero carbon emissions. A key step is the inclusion of MACA, which provides additional opportunity for the Group to play a larger part in providing the raw materials critical to the energy transition – in particular the metals and minerals needed to accelerate decarbonisation technologies.

The Group have and will continue to diversify the business commodity portfolio to assist with the global energy transition and provide sustainable mining solutions to clients. The Group is working to meet the rising demand for metals including copper – essential to the growth in electrification; nickel, zinc and molybdenum – key materials for the renewable energy sector; and lithium – which underpins battery evolution.

Thiess will regularly review our climate related risks and opportunities as the understanding of climate change impacts continue to evolve. Our approach to management of identified climate related risks is described in the *Risk management* section of this report.

The IPCC defines climate risk as a combination of:

1. hazards/drivers arising from, or exacerbated by, climate change
2. current and future potential exposure (e.g. geographical location)
3. impacts and vulnerabilities of the business.

These components collectively shape the physical and/or transition risk at a given point in time.

Climate related risks and opportunities can materialise across Thiess' operations and value chain in numerous areas. Physical risks and opportunities can impact Thiess' operations due to long term (chronic) changes to the climate such as temperature rise and/or more frequent or severe (acute) weather-related events. Transition risks and opportunities can relate to the regulatory frameworks in which Thiess operates, market demand for our services, our reputation, and the new and emerging technologies we might use.

In 2021, we identified our climate related transition and physical risks (R) and opportunities (O) aligned to the TCFD pillars, as documented in Thiess' 2021 Climate Report, and summarised below in Table 1. The shaded rows indicate risks or opportunities that were prioritised for the scenario analysis.

*Table 1: Climate related transition and physical risks and opportunities*

| R/O | Climate related risk/opportunity | Financial Impacts | Timeframe[1] | Mitigation/Control |
|---|---|---|---|---|
| **Transition** | | | | |
| **Policy and Legal** | | | | |
| **R** | Increased climate change regulation (carbon taxes, cross border carbon tariffs, net-zero commitments) impacting Thiess, our clients, and their supply markets. | Impact on operational costs, enhancing reporting and compliance obligations, and impacting competitiveness of our clients' mining operations. | Short to long term | • Finalise and implement decarbonisation plan for Scope 1, 2 and 3 emissions<br>• Undertake climate scenario analysis<br>• Update current regulation monitoring processes<br>• Collaborate with stakeholders and governments to proactively monitor, understand and shape policy initiatives<br>• Collaborate with stakeholders across the value chain to increase efficiency initiatives and reduce costs, lowering financial exposure to carbon. |
| **Market** | | | | |
| **R** | Reduced demand for coal (particularly thermal coal and thermal coal mining service opportunities). | Reduced revenue and enhanced need for diversification. | Short to medium term | • Continue to evolve and implement portfolio diversification strategy to service low carbon economy commodities |

| | | | | |
|---|---|---|---|---|
| **O** | Increased demand for lower-carbon economy commodities. | Provision of net revenue streams, access to new markets, and increasing market share through relationships with new customers and suppliers. | Medium to long term | • Extend service offerings (e.g. mine rehabilitation)<br>• Rebalance thermal coal portfolio to less than 25 per cent by end of 2027<br>• Maintain commitment to current contracted thermal coal mines and support a just transition and economic stability in these regions as coal is responsibly phased down. |
| **O** | Increased demand for rehabilitation services. | Increased revenue from rehabilitating de-commissioned and abandoned mines. | Medium to long term | • Ongoing execution of approved Thiess Rehabilitation business plan. |
| **Reputation** | | | | |
| **O** | Alignment with workforce expectations of climate action. | Improved employee attraction and retention, reduced recruitment costs, increased productivity. | Short to long term | • Engage with and empower employees on climate change action<br>• Develop training on climate risk to upskill employees<br>• Promote collaboration across our workforce to achieve climate targets and implement decarbonisation initiatives. |
| **O** | Recognition as a strong service provider in a lower-carbon economy (due to expertise and brand recognition). | Enhanced contracts win rate and market share. | Short to long term | • Engage with existing clients on portfolio diversification opportunities<br>• Continue to evolve and implement portfolio diversification strategy to service low-carbon economy commodities<br>• Extend service offerings (e.g., rehabilitation, asset maintenance, underground technology and technical consulting). |
| **R** | Reduced workforce availability due to association with coal mining, and/or reduced workforce capability, availability and skills required to service new lower-carbon economy commodities.<br>. | Reduced capacity and capability to successfully deliver new and existing projects. | Short to long term | • Mapping of technical and operational skills required for refreshed strategy to determine potential skills gaps<br>• Implementing training to upskill and retrain current and future employees, and specialist recruitment. |
| **R** | Increasingly complex capital management due to thermal coal exposure and emissions intensity of business operations. | Debt pressures associated with coal exposure. | Short to long term | • Continue to evolve and implement portfolio diversification strategy<br>• Service low-carbon economy commodities and evaluate strategic growth options with emissions generation and abatement profile assessment and shadow price of carbon. |
| **Technology** | | | | |
| **O** | Supply chain innovation and partnership that increases market presence and trust from partnering with clients and original equipment manufacturers (OEMs). | Provision of lower-carbon supply chain solutions and initiatives designed to reduce Scope 3 emissions across the supply chain to increase market competitiveness. | Short to long term | • Maintain deep relationships with OEMs, build insights from their zero emission mining roadmaps into Thiess' asset decarbonisation plans<br>• Strengthen existing and build new relationships with technology and innovation partners to contribute to sustainable mining practices<br>• Map Scope 3 emissions across value chain and determine emissions reduction opportunities in partnership with supply chain partners<br>• Implement Scope 1 and 2 decarbonisation plan<br>• Work with supply chain partners to contribute to sustainable mining practices. |
| **O** | Advances in lower-emission and emission reduction technology to reduce costs associated | Potential to generate carbon credits (e.g., fugitive methane capture). | Short to long medium | • Map technology opportunities to reduce emissions across operations and include in decarbonisation plans. |

| | | | | |
|---|---|---|---|---|
| | with more energy efficient technology and reduce exposure to emissions regulation. | | | |
| **O** | Technological advancements in water security that enhances water efficiency and reduces waste. | Reduction in associated waste and water management costs. | Short to long term | • Implement water management framework aligned with key industry standards e.g. Towards Sustainable Mining (TSM) Water Stewardship Protocol. |
| **Physical** | | | | |
| **Acute/Chronic** | | | | |
| **R** | Increases in the severity and frequency of extreme weather conditions. | Increased interruptions and delays reducing productivity (e.g. equipment unable to operate in flooding or extreme heat) and increased operating expenses and insurance premiums (e.g. damage to assets or facilities). Extreme weather events also impact workforce health and productivity (e.g. heat stress and absenteeism). | Short to long term | • Implement measures for resilience against location-specific physical risks (e.g. snow and ice removal and weather specific staff protective equipment)<br>• Review policies and guidelines for flood management, heat stress, cold stress and other hazards<br>• Trigger Action Response Plans. |
| **R** | Physical climate-risk related tender/project requirements leading to decreased market competitiveness. | Reduced pipeline revenue (e.g., losing bids if unable to meet client climate related requirements). | Short to long term | • Tender Risk Review Committee to continue to address climate risk in new work process. Periodic evaluation of effectiveness of processes to ensure ongoing improvement<br>• Continue to engage with current clients on climate risks and opportunities facing their business and operations<br>• Continue to integrate climate strategy, adaptation and resilience across all projects and tenders. |

[1]*See Glossary and assumptions for the definitions of short, medium and long term.*

In 2022, with input from staff across our key geographies and business lines, we categorised physical and transition climate risks and opportunities over the short (next 5 years), medium (5 to 15 years) and long term (beyond 2040). Two transition and two physical risk themes were then prioritised as indicated by shading in Table 1, for further assessment via climate scenario analysis, categorised according to the TCFD framework (Transition: Policy and legal, Markets; Physical: Acute, Chronic). The scenario analysis process and outputs are summarised in the section below.

## Climate scenario analysis

The four prioritised risks and opportunities used in the scenario analysis, as well as related impacts, metrics and the scenarios/horizons chosen to assess them are described in Table 2 below.

The transition and physical scenario analysis was completed using:

- internal and publicly available Thiess data and
- publicly available climate data associated with globally adopted reference climate scenarios from the NGFS and IPCC (see *Reference climate scenarios* to the right).

The climate scenarios are characterised by varying levels of climate action and global warming, in order to assess the sensitivity of climate, policy and market trends across scenarios and time horizons.

The results of the transition and physical risk scenario analysis are currently being finalised by the Thiess Group Board.

**Reference climate scenarios**

Climate scenarios are used to illustrate what the future might look like under different degrees of climate change. Scenarios are rich, data-driven stories about tomorrow that can help organisations make better decisions today. They are not predictions, but rather a range of plausible possibilities for the future used to stress test business decisions and inform strategic directions and strengthen climate resiliency. There are various publicly available climate scenarios, typically developed by international research or policy groups. We have chosen some of the most widely used global scenarios for the physical and transition scenario analysis, recommended by the TCFD. These are further explained below.

The transition risk climate scenario analysis draws on scenarios developed by the Network for Greening the Financial System (NGFS) that are derived from the Intergovernmental Panel on Climate Change (IPCC) pathways and scenarios from the Potsdam Institute for Climate Impact Research and the International Institute for Applied System Analysis. The NGFS climate scenarios deliver a set of harmonised transition pathways, chronic climate impacts and indicative economic impacts for each of the NGFS climate pathways.

The physical risk climate scenario analysis utilises three climate scenarios based on climate models of the IPCC Fifth and Sixth Assessment Reports (AR5 and AR6), namely the Representative Concentration Pathways (RCPs) and the Shared Socio-economic Pathways (SSPs) that examine how global society, demographics and economics might change over the next century. We use SSPs where possible and pending climate metric and data availability. For both transition and physical risks, a range of metrics were utilised from the selected scenarios that are applicable to Thiess and our operations, and we assessed how those metrics, such as climate patterns or shifting commodity demands, change with time as well as potential associated impacts on our business.

Note: The climate scenario analysis was carried out prior to the MACA acquisition by the Group in late 2022.

*Table 2: Prioritised risk and opportunities for scenario analysis*

| | Transition | | Physical | |
|---|---|---|---|---|
| Theme | **Policy and legal** | **Markets** | **Acute and chronic rainfall** | **Hot and dry conditions** |
| **Risk / Opportunity** | **Financial, policy and regulatory penalties will increase in the future, creating potential financial exposures and barriers for emission-intensive operations and products.** | **A global transition towards net zero emissions will see significantly reduced demand for coal and associated services.** | **Extreme rainfall, snow and the changing seasonality of rainfall are disrupting operations by impacting mine sites, limiting access.** | **Hot and dry conditions are contributing to extreme fire weather and dust storms that increase absenteeism, delay production, and reduce productivity. There is also an increased risk of dust limit licence breaches and community complaints.** |
| **Metrics Assessed** | Thiess emissions across Scopes 1 and 2<br><br>Thiess Scope 3 emissions from fuel use associated with fleet operated by Thiess<br><br>Potential emissions-related financial exposure (inferred using scenario carbon prices) | Commodity demand, e.g. thermal coal<br><br>Potential climate related revenue exposure | Extreme rain intensity and frequency and total annual rainfall<br><br>Insights into seasonal rainfall, storms and lightning, and extreme snow events | Hot days annually above 35°C and days annually with extreme fire weather<br><br>Insights into dust, extreme winds, and wildfire smoke |

| | | |
|---|---|---|
| Scenarios[1] | **High transition risk (NGFS Divergent Net Zero)**<br>Strong and immediate climate action, but with regional and sectoral differences. Warming is limited to <1.5°C by 2100, aligned to the Paris Agreement.<br><br>**Modest transition risk (NGFS Delayed Transition)**<br>Modest and delayed climate action, but with regional and sectoral differences. Warming is limited to <2.0°C by 2100, aligned to the Paris Agreement. | **High emissions (IPCC SSP5-8.5/RCP8.5)**<br>The high emissions scenario with **limited climate action**, aligned with over 4°C global average increase in temperature by 2100.<br><br>**Medium emission (IPCC SSP2-4.5/RCP4.5)**<br>**Strong mitigation** (1.8 to 3.3°C warming by 2100) where current climate targets and policies are met.<br><br>**Low emissions (IPCC SSP1-2.6/RCP2.6)**<br>**Aggressive mitigation** (0.9 to 2.3°C warming by 2100) where the goal of the Paris Agreement is met. |
| Time Horizons | **2030 and 2050**<br>The transition scenario analysis uses 2030 as a medium term and 2050 as a long-term time horizon. These future time horizons are compared to the recent climate. | **2030 and 2050**<br>The physical scenario analysis uses 2030 as a medium term and 2050 as a long-term time horizon. The analysis defined 2030 as a 20-year average between 2021 and 2040, while 2050 serves as a 20-year average between 2041 and 2060. These future time horizons are compared to the recent climate. |

*[1] See Glossary and assumptions for additional details on the NGFS, SSP and RCP scenario. The natural variability in the climate system means that there are wet and dry decades, and some years are hotter than others. For physical climate assessments, 20-year averages are taken around each horizon (2030 and 2050) to provide long term climate trends and an indication of climate risk, reducing the inter-annual variability signals.*

## Transition scenario analysis

Climate change causes significant changes in global long term weather patterns and extreme weather events, but also results in economy-wide business risks and opportunities stemming from the global transition to a lower-carbon future. Transition risk drivers include changes in market demand, regulatory frameworks and policies, technology developments and reputational risks relating to action or inaction on climate change. Transition risks can materialise across the entire Thiess value chain and may include increases in energy and fuel prices, more stringent reporting requirements, pricing of carbon or emissions, shifting commodity mixes and an exposure to regulatory changes.

### Policy and legal

In a world that increasingly places a cost – either directly or indirectly – on greenhouse gas emissions, inadequate decarbonisation represents a potentially significant financial risk to businesses engaging in more emissions intensive products and services. We plan to decarbonise our mining services through implementing energy efficiency improvement initiatives and displacing fossil fuel energy to help us achieve our commitment of net zero Scope 1 and 2 emissions and Scope 3 emissions from Thiess operated fleet by 2050. See our Thiess Group 2022 Sustainability Report for more details on our Decarbonisation Roadmap.

To better understand the risks and opportunities associated with decarbonisation, it is critical to test and, where possible, quantify the potential impact of shifting policy and regulatory circumstances on Thiess' business. The exposure of our emissions against potential policy and regulatory constraints under the NGFS 1.5 degree and below 2 degree potential futures, both of which require significant reductions in emissions, was tested as part of the scenario analysis carried out.

Carbon pricing profiles were used within the NGFS scenarios and compared to our emissions inventory in 2022 and future projections. Our emissions profile is primarily from diesel consumption within the fleet we operate and is included predominantly in our Scope 3 emissions. Carbon prices are commonly employed in climate transition modelling as a means for organisations to assess the potential impact of future climate action and policies on their operations. The price applied in climate transition models represents a range of actions beyond solely an explicit carbon price, including government policy and changes in technology and market preferences.

The scenario analysis provides the extent and timing of potential financial exposure for Thiess resulting from future climate related policy and regulation. The risk of financial exposure is determined using a combination of NGFS climate scenario metrics, such as carbon price, and estimates how our value chain emissions might change in the future. It does not indicate the likelihood or extent of any future carbon pricing mechanism, nor does it suggest that the financial exposure quantified would necessarily materialise as a direct financial liability to Thiess.

The scenario analysis identified a short to medium term risk to Thiess and our value chain arising from potential emissions-related financial exposures. These exposures relate to a delay in current assumed deployment of large-scale electrification of mining equipment that are expected to significantly reduce fleet emissions. Under a 1.5 degree scenario, any financial imposts or penalties due to an exceedance of a specified carbon budget (whether direct or indirect) could materialise over the coming decade. A delayed transition could reduce this near-term risk but may result in more disruptive or stricter penalties in the future.

Although emissions reductions would lessen our future potential exposure to climate related penalties, there are near-term barriers to deploying low or zero emissions technologies due to lack of proven and commercialised technology. We acknowledge this risk and, despite these challenges, are committed to working with our clients, value chain and OEMs to investigate and trial new abatement initiatives to help speed up the deployment of this technology.

Policy and legal transition risks could impact Thiess and our suppliers, clients and broader value chain. To enhance our resilience to potential future changes we are:

- **decarbonising our operations and value chain** – Thiess' emission reduction targets are discussed in the *Metrics and targets* section of this report
- engaging with clients and suppliers to understand the initiatives and collaboration opportunities that can be used to **decrease the collective carbon inventory of the value chain**.

The scenario analysis reaffirmed the need for continued investigation into multiple avenues to decarbonise our operations and prioritise short term opportunities to reduce our carbon footprint.

### Markets

Fossil fuels, including coal, and other emission intensive commodities are subject to decreasing demands in the short to medium term as the global economy transitions to a lower-carbon future. This is evidenced in the IEA's World Energy Outlook 2022 and AEMO's Integrated System Plan 2022 where, despite a short term boost in thermal coal demand due to the current energy crisis, demand is expected to peak in the short to medium term before declining. The results of the scenario analysis indicate that both thermal and metallurgical coal are likely to experience significant demand reductions in the transition, while alternative commodities essential for renewable technologies are expected to experience significant and sustained increases in demand.

To assess the potential magnitude of changing commodity mixes, the analysis drew on two NGFS scenarios and supporting materials from the IEA to quantify plausible demand trajectories for thermal and metallurgical coal, and selected minerals applicable to technologies assisting in the energy transition, such as solar panels and battery storage.

Thiess recognises that rebalancing the composition of thermal coal within our portfolio over time will help enhance our climate resilience, and we embrace the pace of market transition in phasing down fossil fuels. We will continue to provide sustainable mining services to select thermal coal mines while also seeking opportunities to diversify our portfolio.

To prepare for potential future changes in market and commodity demands, and leverage opportunities arising from the global energy transition, we are:

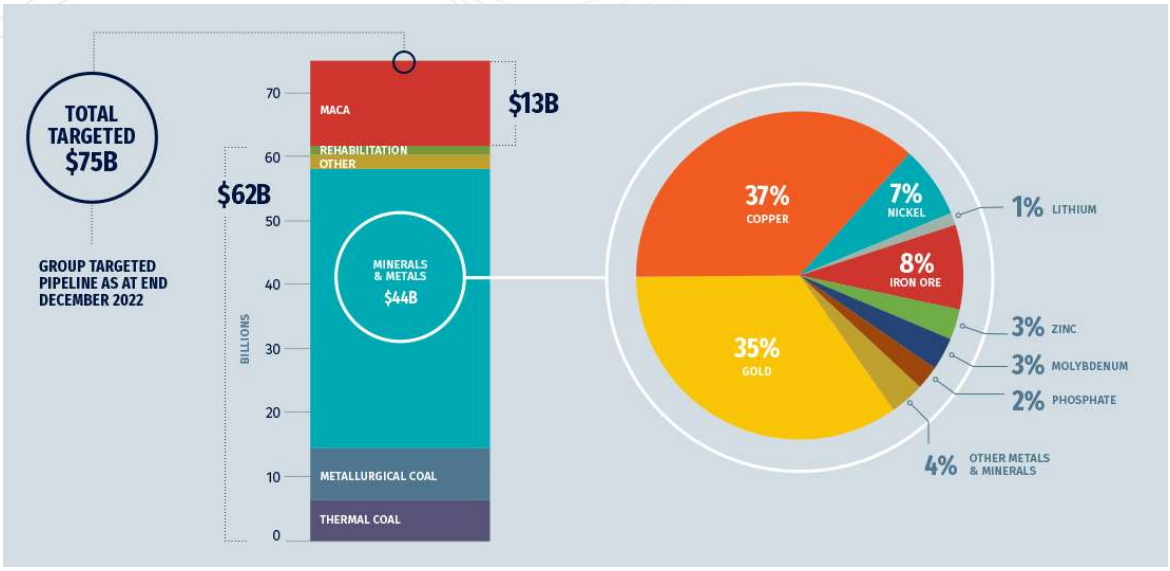
- integrating MACA into the Group to provide additional geographical, commodity and service diversification allowing us to play a larger part in providing the raw materials critical to the global energy transition
- expanding our mining rehabilitation services
- continuing to rebalance our portfolio with lower-carbon commodities.

In 2022, we made progress on our commodity diversification plans including:

- commencing open cut services at a metal mine in North America
- developing a strategy to leverage our Indonesian operations to enter the Indonesian nickel market, including opening a new office in the nickel-rich region of Makassar
- winning and commencing work on a new underground contract at the Rio Tinto Oyu Tolgoi copper mine in Mongolia
- strengthening our focus on metals in Australia with wins in copper/gold (Hillside mine) and iron ore (Iron Bridge mine) projects, and commencing services in copper (Ant Hill mine) and lithium (Mt Holland mine)
- organic reduction in thermal coal revenue with our Mt Owen project ending in 2022 after almost 30 years of operation.

Thiess Rehabilitation was also awarded its first contract with Ensham Resources to deliver more than 700 hectares of rehabilitation over 3.5 years; and we developed a strategic partnership with Tata Steel to deliver planning and engineering services for optimised mine development.

As a result of our shift in focus, our organic pipeline of opportunities has evolved substantially with minerals and metals projects now representing 71% of Thiess' current targeted pipeline as shown below, increasing from 52% in 2020.




## Physical scenario analysis

The effects of climate change are increasing the intensity and frequency of acute and chronic physical climate risks. Acute physical climate risks refer to event-driven impacts, such as extreme heat days, cyclones, or floods. Chronic physical risks refer to longer term shifts in climate patterns, such as rising average global surface temperatures, chronic heat waves or increasing sea levels.

The impact of both acute and chronic physical risks could negatively affect Thiess' operations, project delivery, staff safety and wellbeing, infrastructure, and assets. To ensure we continue to operate and are able to respond to the physical impacts of climate change, it is critical we understand the material risks to our operations. Using widely used IPCC climate modelling data for the three physical risks scenarios, we undertook physical scenario analysis assessments at 46 Thiess sites across seven countries, including five sites of high strategic importance to Thiess.

### Chronic and acute rainfall

Of the 46 locations across seven countries assessed in the scenario analysis, we found that there is a complex relationship between rising global temperatures and precipitation patterns globally.

Extreme rainfall, snow and the changing seasonality of rainfall are disrupting Thiess' operations, impacting mine sites, limiting mine access, and disrupting existing and upcoming project contracts. Thiess' work is typically planned around seasonal rainfall, with the majority scheduled for when conditions are expected to be dry. Recently, in some locations, unseasonal rainfall has interrupted mine production and caused flooding, which has impacted Thiess employees and their homes. Similarly, storms and lightning have repeatedly delayed or ceased production due to explosives safety risks on mine sites.

Relevant climate model projections of future changes in chronic and extreme rainfall were as follows:

- Extreme rain events are likely to become more frequent and intense in the future, impacting sites where we operate, across Australia and Asia in particular.
- The maximum intensity of extreme rain events is projected to increase by at least 10% for 13% of sites by 2030 where we currently operate, and for 33% of sites by 2050.
- Thunderstorms are likely to occur more frequently, especially in our Australia and North America regions, which will increase the risk of production delays due to safety risks.

In response to recent and projected future increases in the frequency of extreme rain events, flooding and storm processes across our portfolio, we are:

- investigating additional flood management processes e.g. flood protection checklists
- continuing to execute existing processes and plans, such as Trigger Action Response Plans for flooding and lightning strikes, flood management procedures, and processes for snow and ice removal at building locations
- investigating potential contractual wet weather contingencies to safeguard against the cost of rainfall related disruptions to operations
- examining ways to embed extreme rain climate projections in forecasting and productivity scheduling
- investigating best practice extreme weather adaptation and preparedness on a regional scale.

### Hot and dry conditions

Hot and dry conditions are contributing to extreme fire weather and dust storms that increase absenteeism, delay production, reduce productivity and increase the risk of licence breaches and community complaints. Increasing temperatures globally are leading to more frequent hotter days. Due to the geographical locations of our operating regions, we are exposed to extreme heat, and an increase in the number of extremely hot days will pose greater risks to the safety of our workforce. Staff health and safety impacts include dehydration, heat stress, reduced working windows and personnel requiring more frequent breaks. Extreme heat has impacted working conditions and some work on mines we operate is scheduled to occur overnight to help manage the risks. In addition, associated dry conditions can increase dust risks impacting staff health and equipment functionality, causing delays to mine production from decreased visibility due to smoke and dust.

Relevant climate model projections of future changes in hot and dry conditions were as follows:

- Analysis of the climate scenarios demonstrated there is an increase in extreme heat events over time and for higher emission scenarios across all our operating regions, particularly in northern Australia.
- Climate models show that our sites in northern Australian are projected to experience 8 to 11 extra hot days over 35$^{o}$C annually by 2030 and 12 to 39 extra hot days annually by 2050.
- By 2030, up to 9 additional days per year are projected to have favourable conditions for extreme fire weather across our operating sites.
- As hot and dry conditions persist and worsen, some regions such as Australia, Chile and the USA may also experience increased dust storms.

As with chronic and acute rainfall events, hot and dry conditions are likely to vary significantly by region and by climate scenario. This presents challenges to the ways we mitigate physical climate risks and increase the climate resilience of our operations.

In response to recent and projected future increases in the frequency of hot days, dust storms and fire weather across our portfolio, we are:

- considering the types of activities that can safely and effectively be performed at night to avoid operating in hot weather
- reviewing our heat stress guidance at a regional level to ensure it is appropriate and fit for purpose
- investigating how to use water reservoirs to effectively suppress dust
- considering how to include wildfire smoke in Thiess' Trigger Action Response Plan.

## Working towards climate resilience

Thiess is aiming to ensure our operations, processes and people are resilient to climate risks and we consider that embedding climate resilience into our business requires a multifaceted approach across short to long term timeframes.

Based on our scenario analysis, we also recognise the short term revenue from thermal coal will continue to be a metric we use to help us assess climate-resilience of our business and we will continue to investigate organic and inorganic growth opportunities that align to lower-carbon commodities and a more climate resilient portfolio.

Our focus areas for 2023 and beyond include:

- ways to best integrate climate risks and opportunities into our corporate risk management processes at a Group level, as per our roadmap
- continuing to work on rebalancing our thermal coal portfolio in favour of lower-carbon commodities
- incorporating the prioritised risk drivers identified in Table 2 into our current risk management processes
- assessing the other areas of the Group that may need further climate analysis, such as the newly acquired MACA business; regions for potential geographical expansion; or any of the 11 specific lower-carbon commodities of interest identified in our strategy
- understanding the regional differences in our physical risk exposures and understanding the most specific, appropriate and fit for purpose adaptation methods that could be utilised.

## Risk management

### Process for identifying and assessing climate related risks

As described in the *Strategy* section, Thiess started the process of identifying climate related risks and opportunities in 2021. These were then prioritised and analysed in further detail in 2022, as discussed in the scenario analysis results for the prioritised transition and physical risks. In 2023, we intend to focus our risk management on assessing the potential impacts outlined in the scenario analysis and integrating climate related risks explicitly into our processes.

Thiess also uses the Verisk Maplecroft Global Risk Dashboard and Country Risk Intelligence to track a range of indicators including climate change, biodiversity, water stress, drought and flood hazard, and environmental regulatory frameworks at the country level each quarter. Relevant insights are incorporated in the quarterly risk review and reporting process to inform the Board and leadership teams on climate related risks.

Risks likely to materially impact the future of Thiess' operations are identified, analysed and documented in Thiess' Enterprise Risk Register, including each risk's rating.

### Process for managing climate related risks

Our Thiess Governance System contains policies, standards and procedures to address numerous types of risks, including those related to climate, and ensures resilience to existing and emerging potential impacts.

Thiess' Risk Management Policy specifically sets out the requirements to identify, analyse, evaluate, treat, monitor, review and report risks that have the potential to impact our sustainability performance, people, third parties and communities where we operate, and the environment, as well as Thiess operations, financial outcomes and reputation. In addition to the guidance in this policy, the Enterprise Risk Register includes current controls in place for identified risks, as well as the risks' consequence, likelihood and actions to mitigate the impacts of the risk. This register is updated and presented to the Audit and Risk Committee every quarter, with recommendations for managing all pertinent risks, including climate related risks.

Our Risk Management Policy has been under review throughout 2021 and 2022, with identified climate risks from our 2021 risk and opportunity workshops being incorporated into the policy for review during 2022. The policy review was also expanded in 2022 to include the development of a risk appetite statement and procedure, drafts of which have all been made available to the Audit and Risk Committee. We will work to finalise this whole of framework review in 2023.

### Integration of processes for climate related risks into risk management framework

In 2022, Thiess strengthened the integration of climate related specific risks and opportunities into our risk management processes. Our Safety, Sustainability and Compliance Committee (SSCC) is responsible for overseeing the management of climate related specific risks in the organisation's wider risk management processes, supported by the ESG Working Group.

The Enterprise Risk Register is an example of how we integrate climate related risks into our operations. This register is updated in quarterly workshops held with Thiess leadership, operational management and functional disciplines, where mitigations for existing and emerging risks are identified and captured. Thiess will investigate further climate related improvements to our risk register in 2023, including more descriptions and assessment criteria for climate related risks, specifically to increase the Board's visibility and management of these risks.

Therefore in 2023, we will continue to integrate climate related risks and opportunities into our risk management processes through:

- **learning from scenario analysis findings:** ensuring the appropriate outputs of the 2022 scenario analysis are included in our risk management framework
- **integration into our risk register:** continuing to identify and develop the guidance for climate related risks for integration in our quarterly update of the Enterprise Risk Register
- **Environmental Policy and ESG planning:** implementing our new Environmental Policy, which was approved by the SSCC and Board in Q4 2022, empowering our staff and organisation to contribute to positive environmental outcomes, and supporting the development and refinement of a strategic plan to assess and manage ESG (including climate) risks across the business.

## Metrics and targets

Thiess is committed to minimising our environmental footprint by establishing and working towards a range of short and long term targets. We are also investing in short and long term actions to position Thiess to be able to capitalise on lower-carbon economy opportunities.

### Our greenhouse gas emissions

As part of our strategy to decarbonise our operations and increase our climate resilience, in 2022, we progressed actions to help us achieve our net zero targets, and incorporated climate related metrics and targets into business planning. Our 2022 achievements are listed below:

- The executive remuneration STI policy now includes evaluation of performance on sustainability and climate action.
- We set Scope 1, Scope 2 and select Scope 3 emission reductions targets.[1]
- We further refined our Scope 3 emission tracking and disclosure.[2]

*[1]Thiess has started setting emissions reduction pathways with consideration of the Science Based Targets initiative (SBTi) criteria but is unable to validate targets as per Criteria 23 which excludes companies who generate revenue from fossil fuels. See Glossary and assumptions.*

*[2]For 2022, Thiess has redefined Scope 3 emissions as the indirect GHG emissions resulting from activities in our value chain but outside of our operational control. Emissions associated with fuel combustion in the mining equipment Thiess operates is classified as Scope 3 from 2022 but were included in Scope 1 in 2021. This is further detailed in the Defining our emissions section of this report.*

Our Scope 1, 2 and 3 emissions as reported in the Thiess Group 2022 Sustainability Report are as follows:

Environment

| | | THIESS | | |
|---|---|---|---|---|
| **METRIC** | **UNIT** | **2020** | **2021** | **2022** |
| **Energy and emissions** | | | | |
| **Total energy consumption** | **GJ** | **49,078** | **48,171** | **44,108** |
| Scope 1 | GJ | 37,072 | 39,995 | 30,704 |
| Scope 2 | GJ | 12,006 | 8,176 | 13,404 |
| **Total scope 1 and 2 emissions** | **$ktCO_2$-e** | **5.28** | **4.62** | **4.96** |
| Scope 1 emissions | $ktCO_2$-e | 2.60 | 2.81 | 2.15 |
| Scope 2 emissions | $ktCO_2$-e | 2.68 | 1.81 | 2.81 |
| **Scope 3 emissions** | **$ktCO_2$-e** | **2,151.9** | **1,975.0** | **2,965.8** |
| Category other - Fuel used in operated mining fleet | $ktCO_2$-e | 2,113.0 | 1,940.0 | 1,771.5 |
| Category 1 - Purchase goods and services | $ktCO_2$-e | | | 880.5 |
| Category 2 - Capital goods | $ktCO_2$-e | | | 94.8 |
| Category 3 - Fuel and energy services | $ktCO_2$-e | | | 0.9 |
| Category 4 - Upstream transportaton and distribution | $ktCO_2$-e | | | 19.9 |
| Category 5 - Waste generated in operations | $ktCO_2$-e | 38.4 | 34.6 | 43.6 |
| Category 6 - Business travel | $ktCO_2$-e | 0.5 | 0.4 | 3.1 |
| Category 7 - Employee commuting | $ktCO_2$-e | | | 20.6 |
| Category 13 - Dowstream leased assets | $ktCO_2$-e | | | 131.0 |

*Note: Scope 1 and 2 emissions for 2020 and 2021 have been amended using our new scope boundary definition so are different to those reported in the 2021 Climate Report. The Scope 3 Category other emissions have been added for all years as per our new scope boundary definition also.*

We have an opportunity to reduce emissions across our entire value chain, including emissions from diesel combustion in fleet we operate. As a service provider, Thiess does not have financial control over the mines we operate, with operational control generally held by our clients. However, we acknowledge our ability to influence our clients' emissions profiles and intend to work with our clients to reduce emissions from these projects. While decarbonisation can reduce some of Thiess' greenhouse gas related risks, we are also working on embedding non-emissions related metrics and targets into our business to strengthen our resilience and our ability to mitigate and respond to a range of climate related risks and opportunities.

### Summary of our climate metrics and targets

To track, measure and minimise our environmental footprint and adapt to climate change, Thiess is developing metrics aligned to our business strategy and risk management processes, particularly in relation to climate related risks. Our metrics and targets are related to emissions reductions, physical impacts, and adaptation, and follow the most recent TCFD guidance released in October 2021. Our progress so far is summarised below in Table 3, and we are planning to expand these metrics and set further targets where possible in 2023 and beyond.

*Table 3: Climate metrics and targets*

| Theme | Metrics | Targets |
|---|---|---|
| **Scope 1 and 2 greenhouse gas emissions** | Absolute Scope 1 and Scope 2 emissions ($ktCO_2e$) | • Net zero Scope 1 and 2 emissions by end of 2025 (as per our new Scope boundary definitions)<br>• Net zero Scope 1 and 2 and Scope 3 emissions from Thiess operated fleet by 2050[1] |
| **Scope 3 greenhouse gas emissions** | Absolute Scope 3 emissions ($ktCO_2e$) from Thiess operated fleet | • 25% reduction in emissions from diesel combustion in fleet we operate[1] by 2035 compared to a 2019 baseline[2]<br>• 85% of Thiess light vehicles used at our operations to be hybrid or battery-electric by 2030 |
| **Assets and projects exposed to transition risks** | % of portfolio supporting lower-carbon economy | Rebalancing Thiess' portfolio to less than 25% thermal coal by end of 2027. |
| **Assets and projects exposure to physical risks** | % of portfolio where physical risk adaptation and extreme weather contract contingencies have been applied | We are looking to develop targets related to physical risks in 2023 and beyond. |
| **Remuneration linked to sustainability and climate action** | % of STI | We are reviewing the sustainability and climate actions included in our executive STI policy to include work in hand in metals and minerals, emissions reduction initiatives and safety leadership. Diversity will also be a key focus for the executive.<br>We are also investigating the inclusion of these measures in our broader remuneration policy for senior leaders in 2023. |

[1] *Estimates of Scope 3 emissions are included in the calculation of this target as a means to more accurately represent the value chain emissions associated with the action we are taking. However, including these emissions in the calculation should in no way be construed as an acceptance by Thiess of responsibility for these emissions. Emissions assumptions included in the* Glossary *and assumptions.*

[2] *Thiess will continue to review our emissions reduction targets as we monitor the progress and commercial availability of technology to decarbonise.*

In future years, we will seek to incorporate the scenario analysis findings into our wider business processes. This could include expanding the climate risk categories that we develop metrics and targets for, including climate related opportunities, capital deployment and internal carbon prices.

## Climate Action Roadmap

We recognise that Thiess is on a journey of building our climate related resilience, which includes implementing measures to adapt to extreme weather and the effects of climate change and working to reduce our emissions.

We achieved most of the climate actions planned for 2022 in our Climate Action Roadmap, as summarised below. Going forward, we will focus on ongoing integration of climate change related considerations into our business and expanding our value chain data collection processes to monitor and set further climate related targets. We believe that business-wide climate education and training is crucial for achieving our key climate actions and this will be a key priority for 2023. Our Climate Action Roadmap for 2023 and beyond is summarised below in Table 4.

*Table 4: Climate Action Roadmap*

| TCFD Pillar | Actions achieved in 2022 | Actions for 2023 | Actions for beyond 2023 |
|---|---|---|---|
| Governance | Disclosed first Climate Report using the TCFD framework.<br><br>Established Safety, Sustainability and Compliance Committee (SSCC).<br><br>Board approved new Sustainability Policy and updated Environmental Policy.<br><br>Reviewed current regulation monitoring processes to improve understanding of global climate policy landscape.<br><br>Established executive STI policy linked to climate action performance. | Develop approach for integrating climate risks, opportunities and scenario analysis outputs into Thiess governance processes.<br><br>Review and investigate expansion of STI policy linked to climate action performance.<br><br>Strengthen regulation monitoring, communication, and collaboration processes, and keep abreast of climate mega trends.<br><br>Develop climate education training and awareness program. | Embed approach for integrating climate risks and opportunities.<br><br>Develop approach to consider climate in all future tenders and project outcomes and practices.<br><br>Review climate considerations and client climate expectations with a selection of current projects. |
| Strategy | Performed physical and transition climate scenario analysis on four priority risk areas.<br><br>Developed a roadmap to decarbonise our operations.<br><br>Launched Thiess Rehabilitation service offering.<br><br>Conducted materiality assessment to understand stakeholders' views on climate and ESG issues. | Consider risks, opportunities and scenario analysis outputs in Thiess strategy and planning processes.<br><br>Refine and implement 2023 decarbonisation plans for Scope 1 and 2 emissions and Scope 3 emissions from fleet we operate.<br><br>Develop a long term adaptation resilience plan that considers physical risks across our projects, operations and personnel.<br><br>Plan implementation of the Towards Sustainable Mining (TSM) framework. | Continue to consider scenario analysis findings and identify emission reduction initiatives at a regional level, including for MACA.<br><br>Continue evaluating and investigating strategic growth options, with consideration for climate, including emissions generated or abated and climate resilience profile. |
| Risk Management | Physical and transition climate risks identified, assessed and management plan assigned in Enterprise Risk Register (to be reviewed quarterly). | Integrate scenario analysis outputs into risk management policy (likelihood estimates and review of controls at a site level) and integrate risks into Thiess' corporate strategy.<br><br>Continue to consider short to long term consequences of climate change, and develop associated non-emission metrics and targets where appropriate.<br><br>Consider carbon pricing methodologies and frameworks that can be adopted by Thiess to support how the financial impact of climate risks are quantified. | Include climate financial impacts in risk management policy and provide relevant training.<br><br>Review and update staff safety policies considering scenario outputs. |

| | | | |
|---|---|---|---|
| **Metrics and targets** | Expanded the mapping of Scope 3 emissions across Thiess' value chain.<br><br>Set emissions reduction targets.<br><br>Annual improvement of Scope 3 emissions disclosure. | Develop a framework for climate related data collection and analysis to support climate metrics and targets development.<br><br>Start work to measure effectiveness of implementation of decarbonisation plans with metrics on initiatives.<br><br>Further refine our Scope 3 emission disclosure and investigate emission reduction opportunities with partners.<br><br>Evaluate renewable energy options for operational controlled facilities and begin to set relevant targets where appropriate. | Undertake internal and external reviews and assurance of climate metrics.<br><br>Evaluate Scope 3 emissions reduction opportunities and expand partnerships for collaborative emissions reduction.<br><br>Integration of emissions metrics and targets with subsidiaries.<br><br>Implement a carbon pricing mechanism into our capital allocation and decision-making processes.<br><br>Further evaluate renewable energy options. |

## Glossary and assumptions

| Term | Definition |
|---|---|
| **Australian Energy Market Operator (AEMO)** | AEMO is responsible for managing energy and gas systems on the National Electricity Market (NEM), located primarily on the eastern coast of Australia. AEMO ensures the energy system is reliable and publishes a suite of reports and status updates concerning the Australian energy market. |
| **Decarbonisation** | Reducing and removing greenhouse gas outputs and increasing the use of energy efficient, low or zero emission products and services. Includes lessening our reliance on products and services that have greater carbon emissions than others. |
| **Emissions assumptions** | Thiess calculates emissions using methodologies consistent with the GHG Protocol Corporate Accounting and Reporting Standard and GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Due to the inherent uncertainty and limitations in measuring emissions under the calculation methodologies used, we note that all emissions data are estimates. Where data is not available due to timing, we apply a reasonable estimation methodology. As reporting improves in other parts of our value chain and methodology of accounting for emissions evolves, we will seek to improve our own reporting accordingly. |
| **Emissions baseline changes** | Where there are material changes to Thiess' portfolio, such as mergers and acquisitions, that result in a material increase in emissions, an increase to the emissions baseline will be considered. |
| **Fleet emission reduction targets** | Thiess' target of 25% reduction in emissions from diesel combustion in fleet we operate by 2035, references the emissions reported in our *Scope 3 – Diesel combustion in Thiess operated fleet* category. Reduction will be compared against a 2019 baseline.<br><br>Thiess' target of 85% of all light vehicles to be hybrid or battery electric by 2030, includes light vehicles owned, hired or leased by Thiess for use at operations and excludes novated lease vehicles.<br><br>Thiess will continue to review our emissions reduction targets as we monitor the progress and commercial availability of technology to decarbonise. |
| **GHG** | Greenhouse gas |
| **Intergovernmental Panel on Climate Change (IPCC)** | The IPCC is an intergovernmental body of the United Nations and has a key role in advancing scientific research into the human causes of climate change and their impacts. The IPCC routinely releases assessment reports that are highly regarded as robust, thorough and authoritative sources of the most recent literature on the impacts of climate change. |
| **International Energy Agency (IEA)** | The IEA is a leading, global body facilitating a sustainable energy future in partnership with government and industries across the globe. The IEA provides authoritative analysis, reports, and data sets that can be used to inform policy decisions and business resilience. |
| **Lower-carbon commodities** | Lower-carbon commodities are services, metals and minerals which may have a significant role in the future lower-carbon economy. Examples of lower-carbon commodities include nickel used in battery storage, copper for energy infrastructure, and mine site rehabilitation services to sequester emission and restore local ecosystems. |
| **Metallurgical coal** | Metallurgical coal, also called met coal or coking coal, typically contains more carbon, less ash and less moisture and has a higher energy content than thermal coal. It is used in the process of creating coke necessary for iron and steelmaking. |
| **Net zero Scope 1 and 2 by 2025 target** | Thiess' net zero Scope 1 and 2 by end of 2025 target relates to direct GHG emissions from Thiess owned or controlled offices and rebuild centres; and indirect GHG emissions from generation of purchased electricity used at these facilities. It includes the evaluation of renewable energy options for these facilities. |
| **Net zero by 2050 commitment** | Thiess' net zero by 2050 commitment relates to our Scope 1 and 2 emissions and Scope 3 emissions category - diesel combustion in Thiess operated fleet as defined in our 2022 Sustainability Report. We include estimates of Scope 3 emissions in the calculation of our target as a means to more accurately represent the value chain emissions associated with the action we are taking. However, including these emissions in the calculation should in no way be construed as an acceptance by Thiess of responsibility for these emissions.<br><br>We have started setting emissions reduction pathways, with consideration of the Science Based Targets initiative (SBTi) criteria, but acknowledge that the technology, such as commercially available, largescale renewable energy electrification, industrial capacity batteries and hydrogen fuel cells to power large mining fleet, to achieve zero emission mining services is currently under development. Thiess may require the use of offsets for hard to abate emissions. Thiess intends to purchase cost-effective abatement options before considering offsets. |

| | |
|---|---|
| **Operational control** | The corporation that has the authority (or if more than one corporation it is the one with the greatest authority) to introduce and implement any or all of the following for a facility:<br>• Operating policies<br>• Health and safety policies<br>• Environmental policies.<br>As detailed in the *NGER Act*, only one corporation can have operational control over a facility at any one time.<br>For the purpose of this report Thiess is deemed to have operational control of all Thiess owned or controlled offices, workshops and rebuild centres and projects where Thiess is deemed to have operational control but where there is no reporting transfer certificate in place. |
| **Representative Concentration Pathways (RCP)** | RCPs are climate models adopted by the IPCC that can be used to understand how the climate and future long term weather patterns may change depending on the level of greenhouse gas emissions emitted, and their representative concentration in the atmosphere. |
| **Science Based Targets initiative (SBTi)** | The Science Based Targets Initiative (SBTi) is a partnership between CDP, the United Nations Global Compact, World Resources Institute and the World Wide Fund for Nature. SBTi defines and promotes best practices in emissions reductions and net-zero targets, and provides target setting methods and guidance to companies to set science-based targets in line with the latest climate science.<br><br>In consideration of the SBTi criteria, Thiess has begun setting interim greenhouse gas emissions reduction targets and outlining a pathway to net zero by 2050. In accordance with C23 of the SBTi Criteria and Recommendations (Oct 2021) "Companies involved in exploration, extraction, mining and/ or production of oil, natural gas, coal as well as other fossil fuels cannot get their targets validated at this stage, irrespective of percentage revenue generated by these activities". However, if there is change in SBTi criteria, Thiess will consider submitting applicable targets to the SBTi for official validation. |
| **Scope 1**[1] | Scope 1 emissions relates to direct GHG emissions from facilities where Thiess has operational control and there is no reporting transfer certificate (RTC)[2] in place as defined by the NGER Act. In 2022 these are emissions from Thiess owned or controlled offices and rebuild centres. |
| **Scope 2** | Scope 2 emissions relates to indirect GHG emissions from purchased energy (electricity and/or heating, cooling and steam if any) at facilities where Thiess has operational control and no RTC is in place. In 2022 these are emissions from electricity used at Thiess owned or controlled offices and rebuild centres. |
| **Scope 3**[1] | Scope 3 emissions relates to all other indirect GHG emissions resulting from activities in Thiess' value chain but outside of our operational control. This includes emissions from diesel combustion in Thiess operated fleet at sites where clients have operational control or there is an RTC in place.<br>The GHG Protocol divides Scope 3 emissions into 15 categories including:<br>• **upstream emissions**, which are indirect GHG emissions related to purchased or acquired goods and services<br>• **downstream emissions**, which are indirect GHG emissions related to sold goods and services.<br>In 2022, our Scope 3 disclosure boundary was expanded and now includes emissions estimates for categories 1, 2, 3, 4, 5, 6, 7 and 13 as defined in the GHG Protocol. |
| **Shared Socioeconomic Pathways (SSP)** | SSPs are global scenarios that include the impacts of greenhouse gas emissions on the climate, as well as differing climate policies, economic growth, population growth, etc. |
| **Short, medium, or long term** | Short term: The time between now and the next 5 years.<br><br>Medium term: The time between 5 and 15 years into the future.<br><br>Long term: The time 15+ years into the future.<br><br>Note: These time periods have been selected to represent when key transition and physical risks might begin to materialise for Thiess, such as increasing climate intensity and frequency, market disruptions, regulatory changes, etc. |
| **Sustainable mining services** | Providing optimised mining services for our clients with consideration of ESG values and impacts at our operations. |

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| **Task Force on Climate-related Financial Disclosures (TCFD)** | Established by the Financial Stability Board, the TCFD has created a suite of disclosure recommendations to assist companies in making public disclosures associated with their physical and transition climate related risks and opportunities.<br><br>The recommended disclosures address the TCFD pillars of Governance, Strategy, Risk Management and Metrics and Targets. |
| **The Central Banks and Supervisors Network for Greening the Financial System (NGFS)** | The NGFS is a leading organisation providing freely accessible climate scenario data that can be used to assess the impact of potential future physical and transition risks across economy sectors and regions. |
| **Thermal coal** | Thermal coal, also called steaming coal, is used to run turbines to generate electricity for public electricity grids or directly consumed by industry. It has a lower energy content than metallurgical coal, and is a significant contributor of global greenhouse gas emissions. |
| **Thermal coal revenue by end of 2027 commitment** | Thiess' thermal coal target of less than 25% of total revenue by the end of 2027 will be achieved by growing our business in commodities required for the global energy transition. Revenue by commodity is a commonly used measure by investors. Achieving this target will require organic and inorganic growth, and is subject to identifying appropriate targets to support the growth strategy. Thiess intends to maintain existing levels of revenue from thermal coal services, providing ongoing support to existing clients and exploring strategic new opportunities. |
| **Verisk Maplecroft Global Risk Dashboard and Country Risk Intelligence** | The Verisk Maplecroft Global Risk Dashboard and Country Risk Intelligence services are products that allow Thiess to monitor and evaluate emerging climate risks and their drivers for the current and recent climate. |

*[1] For 2022, Thiess has re-defined Scope 3 emissions as the indirect GHG emissions resulting from activities in our value chain but outside of our operational control. Emissions associated with fuel combustion in the mining equipment Thiess operates is classified as Scope 3 from 2022 but were previously reported as Scope 1 in 2021. This is further discussed in the Defining our emissions section of this report.*

*[2] The RTC transfers emissions reporting obligations from a corporation designated as having operational control over the facility to the corporation that has financial control over the facility.*

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