

Climate Action Summary

Overview of our climate strategy
and decarbonisation pathway



BlueScope

Our Purpose

We create and inspire smart solutions in steel, to strengthen our communities for the future.

Our Bond

Our Customers
are our partners

Our People
are our strength

Our Shareholders
are our foundations

Our Local Communities
are our homes



This Climate Action Summary provides an overview of our Climate Action Report.



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Cover image: COLORSTEEL® Roofer of the Year, Winner 2019 – Christchurch, NZ.

An architect's own home, this contemporary house features COLORSTEEL MAXX® in Windsor Grey (LG), ideal for severe to very severe coastal, geothermal and industrial environments.

Message from Managing Director & CEO and Chief Executive Climate Change

Mark Vassella
Managing Director
& CEO



Our climate strategy and pathway build on the work we started some years ago to tackle the challenge of climate change across our business. This Climate Action Summary provides an overview of the initiatives and detail provided in our Climate Action Report.

Our climate pathway is based on two mid-term 2030 greenhouse gas (GHG) emissions intensity targets and a longer-term 2050 net zero goal. We acknowledge that achieving the 2050 net zero goal is highly dependent on several enablers, including the commerciality of emerging and breakthrough technologies, the availability of affordable and reliable renewable energy and hydrogen, the availability of quality raw materials, and appropriate policy settings.

Addressing these challenges and opportunities will require collaboration and shared expertise. To help us to explore less carbon intensive technologies, we are building on existing partnerships and creating new collaborations with industry and research partners.

In delivering our strategy, we will also continue to value and rely on the expertise, capability and dedication of our people, supported by our partners, suppliers, customers, communities and other stakeholders.

Mark Vassella
Managing Director & CEO

Gretta Stephens
Chief Executive Climate Change

Gretta Stephens
Chief Executive
Climate Change



Climate change is a critical global issue for our business, industry and stakeholders. We believe that steel has an important role to play.



Decarbonising the steel industry will require sustained and cooperative action by the entire global steel value chain, investors, governments and civil society. Supportive public policy will be essential for the steel industry to transition to low and zero-emissions technologies and meet climate change goals.

John Bevan
Chairman

The role for steel in a low-carbon future

Steel's strength, durability and adaptability makes it essential to modern economies. Steel is also a critical enabler in the transition to a low-carbon economy due to its infinite recyclability and high rate of reuse. Steel products are becoming more light-weight, capable of withstanding the projected physical impacts of climate change and are designed to contribute to the energy efficiency of buildings.

Creating carbon-efficient and climate-resilient solutions for our customers

We develop and produce a wide range of products, designed to help energy efficiency and climate resilience. These include:

- » Components to underpin the renewable energy transition. Wind towers and solar farm infrastructure are highly steel intensive. A typical individual wind tower can include up to 300 tonnes of steel plate, averaging approximately 60 tonnes of raw steel for every megawatt (MW) of wind electricity generation.¹
- » Cool roof solutions developed to help reduce the intensity of urban heat islands² and minimise cooling energy demand in buildings.
- » Advanced coating technologies and extensive testing regimes for improved corrosion resistance to extend product life.

- » Light gauge steel framing for innovative design, long roof spans and reuse of existing structures.
- » High strength steel grades which can reduce the volume of steel required in a structure when the design is governed by strength, and result in embodied carbon savings.



¹ BlueScope analysis conducted based on underlying energy needs to meet the 2030 state renewables target.

² An urban heat island is an urban or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities, modification of land surfaces and waste heat generated by energy use.

Climate action is central to Our Purpose. It is also one of our five sustainability outcomes that reflect what matters most to our stakeholders.



Key highlights

SET A GOAL FOR:

NET ZERO

GHG emissions across our
operations by 2050³

SET TARGETS FOR:

12%

GHG emission intensity
reduction by 2030 for our
steelmaking activities
(based on 2018 levels)

30%

GHG emission intensity
reduction by 2030 for our
non-steelmaking activities⁴
(based on 2018 levels)

INITIAL
ALLOCATION UP TO

\$150M

Capital for climate projects and
initiatives over the next 5 years



Appointed a Chief Executive Climate
Change and established a corporate
climate team



Climate scenarios revised,
including a 1.5°C scenario



Climate further integrated
into Capital Allocation
Framework



Conducted a detailed climate
physical risk assessment across
>60 operational sites



We are listening to our customers
to create innovative and more
sustainable products



Our people are our strength –
developing innovative, practical
and efficient solutions



Climate performance linked
to executive remuneration



Leading roles in key climate initiatives
such as ResponsibleSteel™

³ Our 2050 net zero goal covers BlueScope's Scope 1 and 2 GHG emissions. Achieving the 2050 net zero goal is highly dependent on several enablers, including commerciality of emerging and breakthrough technologies, the availability of affordable and reliable renewable energy and hydrogen, availability of quality raw materials, and appropriate policy settings.

⁴ The Non-Steelmaking Target applies to our midstream activities that include our cold rolled, metal coating and painting lines and long and hollow products. It excludes our downstream activities.

Our climate strategy

Our climate strategy outlines our plans to address the climate challenge. Our decarbonisation pathway sets out BlueScope's approach to reducing emissions across our business.



Reduce our GHG emissions in response to evolving climate science, technology availability and key investment decisions



Use quality and cost-effective carbon offsets, only where direct abatement is not feasible



Create carbon-efficient and climate-resilient solutions for our customers



Making the case for local, sustainable steel in our communities



Increase our use of affordable and reliable renewable energy



Monitoring and appropriately managing climate risks and engaging with external stakeholders and partners.




The innovation and expertise of our people bring fresh thinking to how we respond to the climate challenge, ensuring we continue to strengthen our communities for the future.


Kristie Keast
Chief People Officer

Our 2050 net zero goal and 2030 targets

2050 GOAL

<h1>NET ZERO</h1> <p>Scope 1 and 2 GHG Emissions</p>	<p>We have set the goal of pursuing net zero GHG emissions by 2050 across our business.</p> <p>This goal will cover our operational Scope 1 and Scope 2 GHG emissions and will apply to all our operations (including non-steelmaking activities).</p> <p>Our 2050 net zero goal is contingent on five key enablers:</p> <ul style="list-style-type: none"> » Evolution of emerging and breakthrough technologies to viable, commercial scale; » Access to affordable and reliable renewable energy; » Availability of appropriate volumes of competitively priced hydrogen from renewable sources; » Access to appropriate quality and quantity of raw materials both ahead of and beyond the transition; and » Public policy that supports investment in decarbonisation and avoids risk of carbon leakage.
 <p>All global operations (steelmaking and non-steelmaking)</p>	

To generate momentum towards achieving our 2050 net zero goal, we have adopted:

<h2>2030 STEELMAKING TARGET</h2>	<h1>12%</h1> <p>Emissions intensity reduction</p>	 <p>Steelmaking sites (Port Kembla, Glenbrook and North Star)</p>	<p>A Scope 1 and 2 GHG emissions intensity reduction target of 12 per cent by 2030 against a FY2018 baseline (measured as tonnes CO₂-e per tonne of raw steel produced from our steelmaking operations).</p>
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<h2>2030 NON-STEELMAKING TARGET</h2>	<h1>30%</h1> <p>Emissions intensity reduction</p>	 <p>Midstream sites that include painting and coating lines</p>	<p>A Scope 1 and 2 GHG emissions intensity reduction target for our midstream non-steelmaking activities, targeting a 30 per cent GHG intensity reduction by 2030 against a FY2018 baseline (measured as tonnes CO₂-e per despatched tonne of steel). This new target was adopted in FY2022.</p>
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Together these targets will cover around 98 per cent of BlueScope's Scope 1 and 2 GHG emissions.

Our performance

GHG emissions

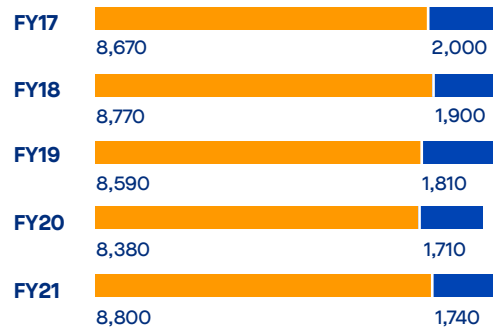
The majority of our Scope 1 GHG emissions result from industrial processes associated with our iron- and steelmaking operations, while Scope 2 GHG emissions result from electricity consumed from the grid. The largest of our Scope 3 GHG emissions are from the steel that we purchase (in regions where we do not manufacture it within our own operations).

92% of our Scope 1 and 2 GHG emissions arise from our iron- and steelmaking activities at our three steelmaking sites.

Since 2005, absolute GHG emissions (Scope 1 and 2) from BlueScope's steelmaking facilities have reduced by 28 per cent, while emissions intensity has reduced by 21 per cent, on an equity share basis.

BLUESCOPE'S TOTAL SCOPE 1 AND 2 GHG EMISSIONS FOR THE LAST FIVE YEARS⁵

ktCO₂-e



● Scope 1 GHG emissions ● Scope 2 GHG emissions

While FY2021 saw an increase in absolute Scope 1 and Scope 2 emissions of 1.3 per cent compared to FY2019, external dispatch volumes increased 1.6 per cent over the same period. FY2020 production and GHG emissions were impacted by COVID-19 government mandated shutdowns.

⁵ BlueScope's FY2020 Scope 1 GHG emissions have been restated to reflect an identified error in the data included in the FY2020 Sustainability Report. The FY2020 Scope 1 GHG emissions have subsequently been restated to 8,380 ktCO₂-e. BlueScope's FY2018 and FY2020 Scope 2 GHG emissions have been restated to align with more accurate electricity emission factors for our North Star operations for these reporting periods. The FY2018 Scope 2 GHG emissions has been amended to align with the Climate Action Report on our website.

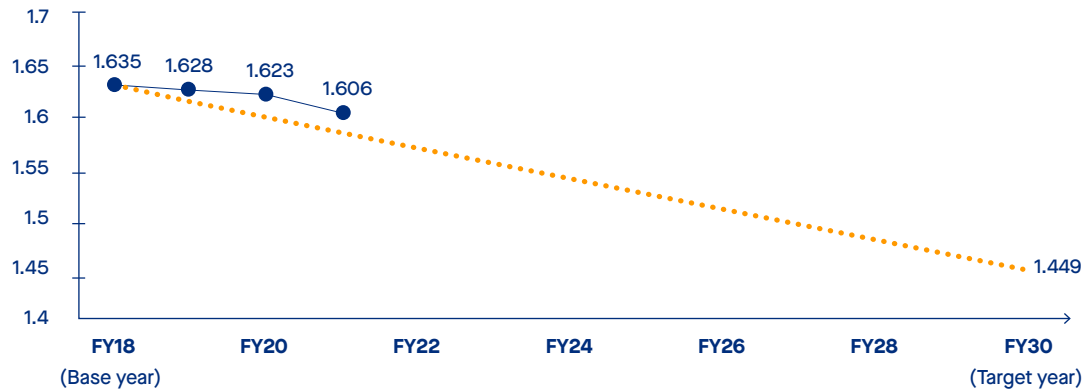


Performance against our Steelmaking Target

Our GHG emissions intensity continues to improve, despite the challenges presented by COVID-19 in recent times, with an aggregate 1.8 per cent reduction in intensity against our FY2018 base year.⁶

We are making progress on our commitment to reduce the Scope 1 and Scope 2 GHG emissions intensity of our steelmaking activities by 12 per cent by 2030.⁷

PERFORMANCE AGAINST 2030 STEELMAKING TARGET⁸



● Target (12% by 2030) ● Performance (tCO₂-e/t)

Performance against our Non-Steelmaking Target

Since 2018, our GHG emissions intensity across our midstream non-steelmaking activities declined by 6.3 per cent.⁹

⁶ With the introduction of our Non-Steelmaking target and associated updates to our integrated steelmaking facility reporting boundaries, and updates to Scope 2 electricity emission factors, we have updated the FY2018 baseline and the FY2030 target for our steelmaking GHG emissions intensity.

⁷ This 1 per cent year-on-year target is calculated based on a FY2018 base year, which when aggregated leads to our medium-term 12 per cent emissions intensity reduction target across our steelmaking activities.

⁸ Due to updates to electricity emission factors for our North Star facility and the introduction of our midstream non-steelmaking target and associated updates to our integrated steelmaking facility reporting boundaries, the FY2018 steelmaking GHG emission intensity baseline has been updated.

⁹ Tata BlueScope Steel's Jamshedpur site has not been included in the reported data for this metric.



Planning for the future and our decarbonisation pathway

We have tested the resilience of our business strategy and operations under different potential future climate pathways, using scenario analysis.

Our climate scenario analysis takes account of a range of potential global and regional developments and assesses what these developments could mean for the steel sector and our business. The outcomes of these scenarios were a crucial input into the development of our climate strategy and decarbonisation pathway.




We explored the possible range of market, technology and policy outcomes for steel under five climate scenarios.

As hypothetical constructs, scenarios should not be viewed as predictions or forecasts. In applying exploratory scenarios, no single climate scenario is considered a base-case or mid-point view against which BlueScope is directly managing its portfolio.

Our recent scenario analysis indicated that:

- » Our business can play an essential role in the transition to a low-carbon economy as the steel sector and the global community take action to decarbonise.
- » Our business performance remains strong if low emissions iron and steel technologies are commercially available no later than 2040-2050. It is important to note that the adoption of these technologies will be highly dependent on their commercialisation, affordable and reliable renewables, sufficient volumes of low-cost hydrogen, availability of appropriate raw materials, and policies that support ongoing competitiveness and do not create carbon leakage.

SCENARIO OVERVIEW – KEY DRIVERS, ASSUMPTIONS AND SCENARIO NARRATIVES

 Early green technology	 Customer-led transformation	 Two-speed world converges	 Investor and public persuasion	 Global inaction
~1.5°C	~2.0°C	~2.0°C	~3.0°C	~4.0°C
Significant shifts in US policy triggers comprehensive, global cooperation and breakthroughs in hydrogen and other 'green' technologies	Customers in advanced economies prefer green steel while the rise of substitutes erodes total demand for steel	Global action splits into highly ambitious jurisdictions vs large number of lower ambition/limited action jurisdictions before rapidly converging	Investor and financiers increase cost of capital for high-emission businesses in response to the public's expectations	Nationalist interests trump global policy action as most major governments focus on adapting to climate change



THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) SIXTH ASSESSMENT REPORT (AR6)

We acknowledge the importance of the IPCC's Sixth Assessment Report, released on 9 August 2021. We note that the IPCC report was not available at the time that BlueScope was undertaking its FY2021 climate scenario analysis. We will further examine the findings of the IPCC report and other important developments in climate science, policy settings and technology as we seek to undertake the next refresh of our scenario analysis.

Our decarbonisation pathway

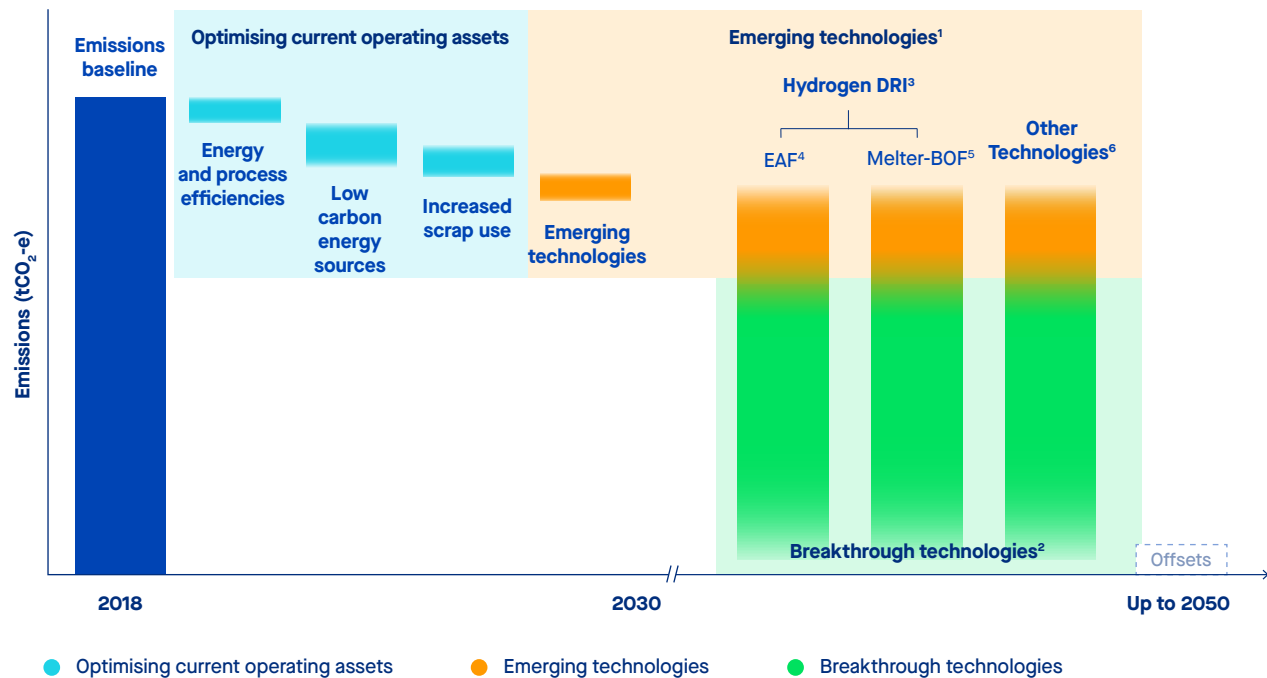
We have developed our iron- and steelmaking decarbonisation pathway over two phases:

- (i) our pathway to achieving our 2030 steelmaking intensity reduction target; and
- (ii) a suite of options to meet our 2050 net zero goal.

In the near to mid-term, this means our focus will be on optimising our existing assets and processes and working in partnership with industry and research bodies to progress the technical and commercial viability of future technology options. This could include optimising raw material mixes, capturing and reusing a greater proportion of waste heat and gases, potentially replacing a portion of the coal currently used in the blast furnace process with alternative reductants such as hydrogen and establishing markets for co-products via carbon capture, utilisation and storage (CCUS). Increased rates of scrap use and renewable energy to reduce or eliminate Scope 2 GHG emissions are also key focus areas.

In the longer-term, we will continue to explore multiple process routes and understand how they might fit into our operations depending on how the technologies, energy and raw materials availability, and regional policies evolve.

BLUESCOPE'S INDICATIVE IRON- AND STEELMAKING DECARBONISATION PATHWAY



- 1 Emerging technologies refers to demonstrated technology that is commercially available but requires further application to integrated steelworks, e.g. biochar, hydrogen tuyere injection, etc.
- 2 Breakthrough technologies refers to technology not yet commercialised, currently at concept or pilot stage, or not yet applied to integrated steelworks (e.g. low Technology Readiness Level (TRL)).
- 3 Contingent upon feasible supply of hydrogen from renewable sources.
- 4 Requires suitable high-grade ores, estimated at less than 15% of available ores and access to cost-effective energy sources.
- 5 For Melter-BOF, DRI-melter replaces the blast furnace. Maintains existing BOF and caster infrastructure, and allows a wider range of ores to be used.
- 6 Other technologies include CCUS, electrolytic reduction, etc.

Future technologies and 'green steel'

Several hydrogen-based ironmaking technologies are currently being explored across the industry. These range from the injection of hydrogen into existing blast furnace operations to the replacement of current ironmaking technologies with direct reduced iron (DRI) manufactured using renewable hydrogen. Concept studies, prototypes and demonstration plants are being developed, but further significant advances will be needed before these technologies are commercialised.

Recognising that 'green steel' is not yet commercially available at scale, we are working on optimising existing processes to deliver emissions reductions and building optionality around emerging technologies, where feasible.

Increasing scrap use

Steel is one of the most highly recycled materials in use today, and is a key enabler in lower emissions steelmaking. Globally around 80-90 per cent of scrap steel is recovered and recycled to produce secondary steel. Despite this high recovery rate, today only 32 per cent of global steel demand can be satisfied by scrap steel sources, with the IEA prediction that this will increase to 45 per cent by 2050.

There are wide regional variations in the availability of scrap steel of a quality suitable for producing secondary steel. The shortfall in suitable quality scrap in Australia makes the EAF production method unviable for producing flat products (e.g. COLORBOND® steel). By contrast, in the US, higher volumes of suitable scrap steel along with lower priced electricity, make EAF steelmaking for flat products more viable. The expansion of our North Star steelmaking facility in the US is estimated to increase our overall use of scrap in steelmaking to 50 per cent once the North Star expansion is complete.



Hervey Bay Community Centre. Photography by Jason Wilson

Looking ahead

BlueScope's decarbonisation pathway will be supported by a dedicated investment program, leveraging our expertise with effective partnerships and advocating for public policies that enable the transition to lower emissions iron- and steelmaking.

Investing in the future

Delivering the 2030 targets and progress on the 2050 goal will be supported by our revised Capital Allocation Framework. On an indicative basis, we anticipate capital requirements of an estimated \$300M to \$400M over the next 10 years. To that end, we have made an initial allocation of up to \$150M over the next five years to help deliver on our mid-term commitments.

Progressing climate action

As we continue on our journey to address the decarbonisation challenge across our business, we will:

- » continue to engage with our internal and external stakeholders to implement our climate strategy;
- » continue to optimise our existing assets and processes and explore near-term emissions reduction technology options as we execute our expansion of North Star and assess options for steelmaking at Port Kembla, engaging a broad range of stakeholders on key developments and options in relation to these projects;
- » regularly review and assess the progress of projects through our capital planning process;

- » continue to investigate opportunities to work with value-chain partners on research and development and on piloting emerging and breakthrough technologies;
- » continue to assess and evolve analysis and management of the potential impacts of climate scenarios on our business. We also commit to undertaking a detailed refresh of our scenario analysis at least every three years; and
- » continue to progress our disclosure of climate-related financial information within our annual results and sustainability reporting suite.

Partnerships and research

Addressing decarbonisation in the iron and steel industry will require a range of perspectives and expertise, and partnerships across our value chain. BlueScope has a strong history of partnering with universities and steelmakers and participating in specific initiatives led by research organisations.

We are also members of several multi-stakeholder forums and initiatives, including our role as founding members of ResponsibleSteel™, Australian Industry Energy Transitions Initiative and the Net Zero Steel Pathway Methodology Project.



FINLEY SOLAR FARM

Facilitating affordable and reliable low-emissions energy supplies is one of the five key enablers for our 2050 net zero goal.

In FY2020 the 500,000 solar panel, 300 hectare, Finley Solar Farm commenced generating renewable electricity. The construction of the 133MW_{ac} solar farm was made possible by BlueScope entering into a seven-year Power Purchasing Agreement, committing to 66 per cent of the electricity generated, which equates to approximately 20 per cent of our Australian Steel Products division purchased electricity.



The essential role for governments in enabling the transition

Supportive public policy will be essential for the steel industry to transition to low and zero-emission technologies and meet climate change goals.

There are several reasons for this. Many of the technologies that will facilitate the industry's transition will require very large capital investments. Some of these technologies will also materially increase operating costs. The global playing field is currently uneven, with wide variation in the regulation of GHG emissions and industry subsidies, by national governments. Although it is a leader in coated and painted steel solutions, BlueScope is a small steelmaker in global terms.

Accordingly, to remain globally competitive while transitioning to meet climate change goals, we will need supportive public policy. This includes policy that helps deliver the five key enablers of our 2050 net zero goal, including: evolution of emerging and breakthrough technologies to viable, commercial scale; access to affordable and reliable renewable energy; availability of appropriate volumes of competitively priced hydrogen from renewable sources; access to appropriate quality and quantity of raw materials both ahead of and beyond the transition; and public policy that supports investment in decarbonisation and avoids risk of carbon leakage.

BlueScope is playing an active role in advocacy for our industry, engaging with a broad range of stakeholders to address the issues raised by climate change. The release of our Climate Action Report is an opportunity to continue that engagement.

In late 2020, we committed to invest \$20M to develop a Renewable Manufacturing Zone at our Port Kembla Steelworks site. This will be the foundation of an expanding sustainable manufacturing base for the state of New South Wales and is aligned with its innovative Renewable Energy Zones state-wide rollout.

FORWARD LOOKING STATEMENTS

This report contains certain forward-looking statements, which can be identified by the use of forward-looking terminology such as “may”, “will”, “should”, “expect”, “intend”, “anticipate”, “estimate”, “continue”, “assume”, “project” or “forecast” or the negative thereof or comparable terminology. This report has also utilised publicly available third-party information and forward-looking statements, for example forecasts from the International Energy Agency (IEA) were utilised in the development of the scenario analysis. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance and achievements, or industry results, to be materially different from any future results, performances or achievements, or industry results expressed or implied by such forward-looking statements.

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