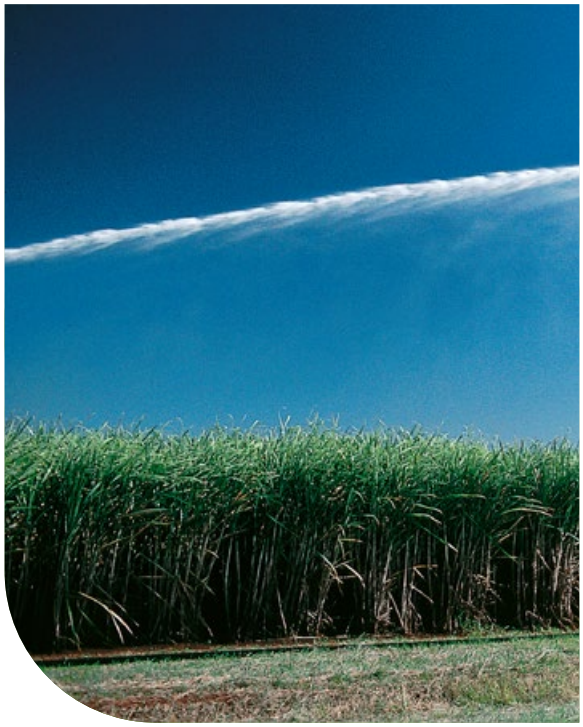
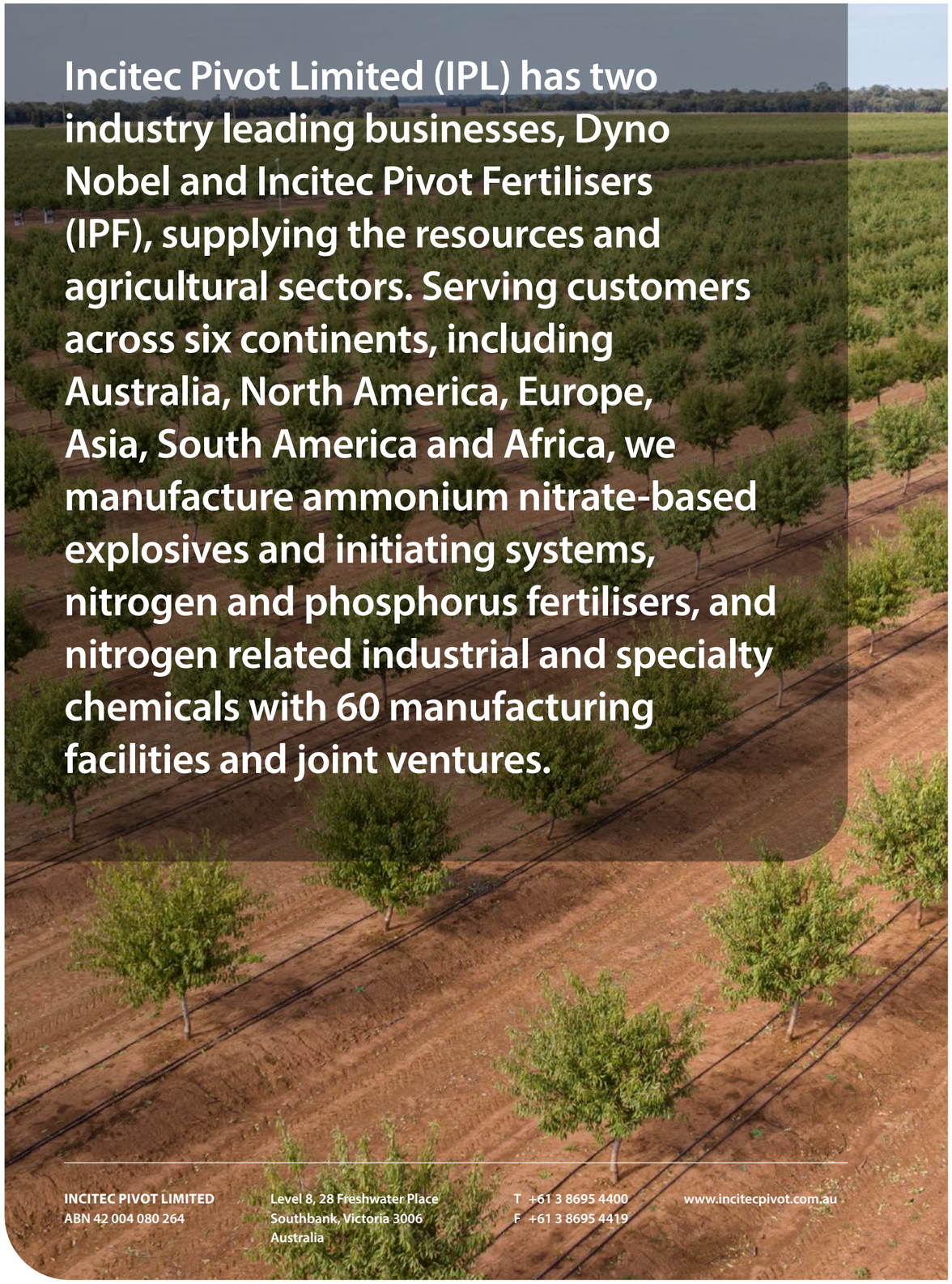
Climate Change Report 2023



Incitec Pivot Limited
INNOVATION ON THE GROUND

DYNO Dyno Nobel

Incitec Pivot Fertilisers



Incitec Pivot Limited (IPL) has two industry leading businesses, Dyno Nobel and Incitec Pivot Fertilisers (IPF), supplying the resources and agricultural sectors. Serving customers across six continents, including Australia, North America, Europe, Asia, South America and Africa, we manufacture ammonium nitrate-based explosives and initiating systems, nitrogen and phosphorus fertilisers, and nitrogen related industrial and specialty chemicals with 60 manufacturing facilities and joint ventures.

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About us

We have two customer facing businesses: Dyno Nobel, based in the Americas, Europe, Middle East, Africa (EMEA) and Asia Pacific; and the largest fertiliser business on the east coast of Australia, Incitec Pivot Fertilisers.

Through these two businesses, we make people's lives better by unlocking the world's natural resources through innovation on the ground. In addition to the increased yields of sugar cane, cotton, grains, beef, lamb, milk and vegetables grown using our fertiliser products, our explosives products and services unlock iron ore, copper and quarry and construction materials used to build electric vehicles, wind turbines and critical infrastructure.

Our advanced and premium technology, manufacturing excellence and world class services are focused on the diverse needs and aspirations of our customers, ensuring IPL's continuing key role in developing the efficiency and sustainability of the world's resource and agricultural sectors.

Dyno Nobel

Dyno Nobel is IPL's global explosives business. It is the largest industrial explosives distributor (by earnings) in North America and the second-largest industrial explosives provider in Australia.

Americas: Dyno Nobel Americas (DNA) provides ammonium nitrate, initiating systems and technical services to the Quarry and Construction sector primarily in the Southern US, Northeast US and Canada; the Base and Precious Metals sector in the US mid-West, US West and Canada and the Coal sector in the Powder River Basin, Illinois Basin and Appalachia.

Asia Pacific: Dyno Nobel Asia Pacific (DNAP) provides ammonium nitrate based industrial explosives, initiating systems and services to the Metallurgical (MET) Coal and Base and Precious Metals sectors in Australia, and internationally to a number of countries including Indonesia, Papua New Guinea and Turkey through its subsidiaries and joint ventures.

Europe: With the purchase of Titanobel in 2022, Dyno Nobel entered the French quarry and construction market and gained access to New Caledonian and West African markets with future facing mineral opportunities. When combined with the existing Nitromak business in Turkey, this provides a compelling foundation to grow the business across Europe, the Middle East and Africa.

Global Manufacturing: In North America, Dyno Nobel manufactures ammonium nitrate at its Cheyenne, Wyoming and Louisiana, Missouri plants. The Cheyenne, Wyoming plant is adjacent to the Powder River Basin, strategically placed for both the Base and Precious Metals sector and North America's most competitive thermal coal mining region. The Louisiana, Missouri plant has a competitive logistic footprint from which to support the Quarry and Construction sector throughout south eastern US, and mining in both the Illinois Basin and Appalachia. Initiating Systems are manufactured at Dyno Nobel's facilities in Connecticut, Kentucky, Illinois, Missouri, Chile and Mexico, and are also sourced from DetNet South Africa (Pty) Ltd (DetNet), an IPL electronics joint venture.

In Australia, Dyno Nobel manufactures ammonium nitrate at its Moranbah plant in the Bowen Basin, the world's premier MET coal region. It also has a 50% interest in the fully integrated, state of the art ammonium nitrate facility near Moura in Central Queensland. Initiating Systems are manufactured at Dyno Nobel's Helidon facility in Queensland and are also sourced from IPL facilities in the Americas and its joint ventures.

The business operates its state of the art ammonia plant in Waggaman, Louisana. In addition, the business wholesales agricultural products produced at its St Helens facility and its Cheyenne facility.

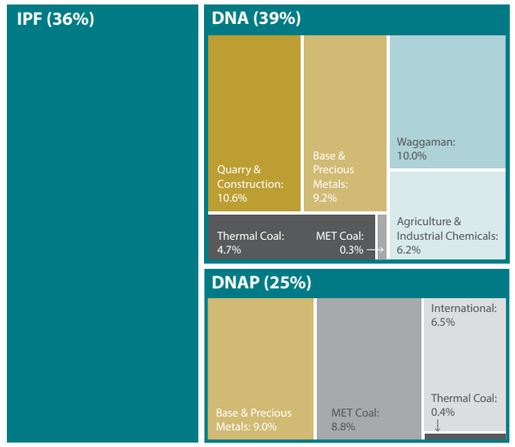
Incitec Pivot Fertilisers

Incitec Pivot Fertilisers (IPF) is IPL's fertilisers business. With an unrivalled position across Eastern Australia, it is one of the largest domestic manufacturers and suppliers of fertilisers by volume produced from its strategically positioned manufacturing facilities, including the ammonium phosphate fertiliser plant at Phosphate Hill, complemented by the world scale sulphuric acid plant at Mount Isa, the Gibson Island ammonia manufacturing plant, where conversion to green ammonia is being investigated, and the Geelong Single Super Phosphate (SSP) manufacturing plant.

IPF's distribution network includes more than 20 Primary Distribution Centres and stretches from Cairns in North Queensland down the eastern and southern Australian coasts to Port Lincoln in South Australia. These include three EASY Liquids sites based in Boundary Bend, Moree and Whitton, providing a wide range of liquid fertilisers to key agricultural markets close to these distribution points.

Internationally, IPF sells to major offshore agricultural markets in Asia Pacific, the Indian subcontinent, Brazil and the US. IPF also procures fertilisers from overseas manufacturers to meet domestic seasonal peaks for its customers' diversified crops.

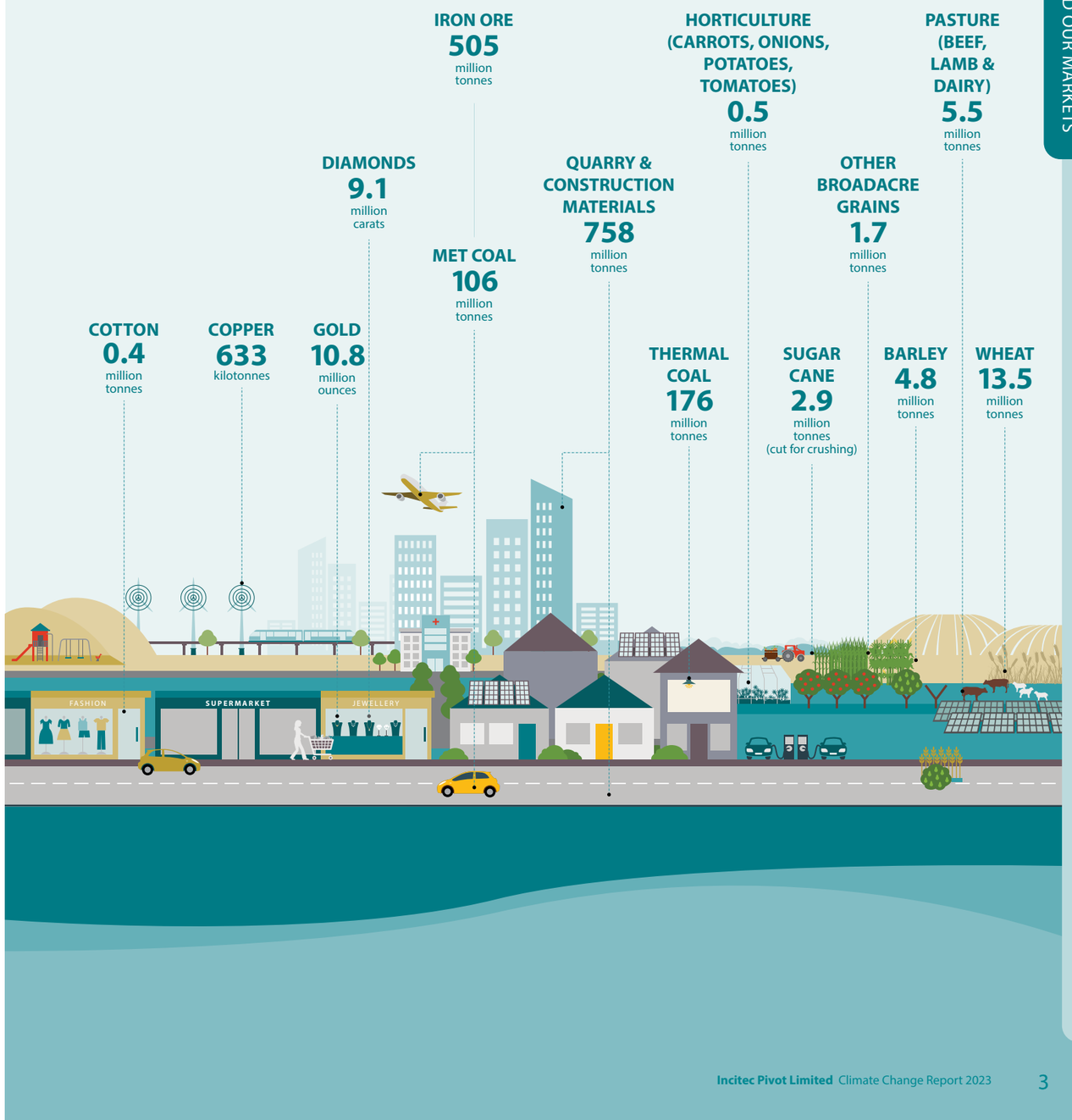
Graph of our revenues by business and sector



Our business and our markets

The natural resources our products unlock are central to modern life and essential nutrition.

We are committed to unlocking the potential in the Earth to help people grow, by sustainably delivering these products to our mining, quarry and construction, and farming customers into the future. During 2023, our explosives and fertiliser products were used by our customers to help them unlock approximately:



Message from Interim CEO

With more resources and investment in innovation than ever before, Incitec Pivot Limited has continued to prioritise the urgent challenge of climate change over the past 12 months.

Our determination has resulted in significant progress, which we outline throughout the pages of this report, our third standalone Taskforce on Climate-related Financial Disclosures (TCFD) aligned Climate Change Report. During the year we have had an increased focus on governance and transparent communications with shareholders, which included undertaking a high-level Just Transition Risk Assessment and adopting an Energy Policy. We have continued to progress four key projects aimed at reducing IPL's operational greenhouse gas (GHG) emissions, and we have mapped scope 3 GHG throughout the value chains of our two customer facing businesses, Dyno Nobel and Incitec Pivot Fertilisers (IPF). We have also identified management strategies and key enablers to reduce each scope 3 GHG category.

There is increasing focus on our integrated Net Zero Strategy, which I am pleased to report was overwhelmingly supported by almost 90% of shareholders who voted at the 2022 AGM in February this year. We are committed to an open dialogue on climate change, particularly with our investors and shareholders. The best way to ensure long-term sustainable returns, and ongoing success, is to have an integrated Net Zero strategy.

Operating in a hard-to-abate manufacturing sector means that we face unique challenges on our decarbonisation journey. This demands creativity and commitment, and we are putting into practice our mantra that new challenges require new solutions.

As this report details, we are backing this with significant resources and have spent A$50m in Sustainability Capital for decarbonisation projects during 2023. This includes the Gibson Island Green Ammonia Project, which seeks to convert our ammonia manufacturing facility from natural gas based manufacturing to green ammonia, in partnership with Fortescue Future Industries.

Having completed Front End Engineering Design (FEED) stage this year, we are now working toward a final investment decision. If approved, as far as we are aware this will be the first world-scale conversion of an existing ammonia manufacturing facility to renewable ammonia production.

Other decarbonisation projects progressed throughout the year include tertiary nitrous oxide (N_2O) abatement at the nitric acid plants at our Moranbah, Queensland and Louisiana, Missouri (LOMO) ammonium nitrate manufacturing facilities, and Carbon Capture and Storage (CCS) at our Waggaman, Louisiana ammonia plant. The Moranbah installation is planned for 2024 and capital for the LOMO installation was approved this year. While we announced the sale of the Waggaman facility to CF Industries Holdings earlier this year, we have continued to progress this project to capture carbon dioxide (CO_2) and permanently geologically sequester it. Importantly, CF Industries has publicly committed to continuing the CCS project.

I'm also pleased to release IPL's Energy Policy, which was approved by the Board in 2023. The policy outlines IPL's commitment to responsible energy management and decarbonisation of our energy use across our global operations in line with our Climate Change Strategy. Our short-term objectives include developing green hydrogen at commercial and industrial scale and, until such time as this can be achieved, securing natural gas at a competitive price to maintain the viability of our domestically located manufacturing facilities for secure supply chains and a just transition for our employees and communities. Our long-term objectives include transitioning all of our ammonia manufacturing facilities to renewable hydrogen. We also aim to transition our electricity, fleet vehicles and on-site mobile equipment to renewable options.

In addition, we are focused on decarbonising our value chains and providing our customers with low carbon solutions. This year our Dyno Nobel business built a prototype electric mobile processing unit (MPU) truck for our mining customers, complete with its own charging station. These heavy vehicles process and deliver explosives to boreholes on our customers' mine sites.

In our fertilisers business, IPF's Enhanced Efficiency Fertiliser (EEF) range, which includes nitrification inhibitors, has been shown to reduce our farming customers' GHG from fertiliser use, in one instance, by up to 76%[1].

EEFs work by keeping nitrogen in stable forms in the soil for longer, optimising their uptake by plants and reducing the risk of nutrient run-off and losses to the air as N_2O. This year IPF participated in an industry association review to submit a method to formally quantify the GHG reductions associated with EEFs. We have also continued research partnerships to develop the next generation of enhanced efficiency 'smart fertilisers'.

As we move towards Net Zero, it is crucial that we take our people and our communities with us as part of a 'just transition'. For IPL, this means decarbonising our operations and supply chains in a way that meets the goals of the Paris Agreement and is also orderly, timely, fair and equitable. This year we conducted a Just Transition Risk Assessment for our global manufacturing facility employees. Because we seek to retain our manufacturing assets and decarbonise them, we anticipate that we will be able to protect and sustain the jobs we provide and continue to support the communities which depend on those jobs.

Earlier this year we ceased natural gas based manufacturing at our Gibson Island facility, as natural gas could not be secured at a competitive price to continue manufacturing until the facility could be converted to green ammonia. Consistent with our approach, we have provided assistance to affected employees to retire, redeploy, or retrain and seek new employment opportunities. Among those affected, 75% engaged with the outplacement services, with 58% known successful transitions made. The Just Transition case study included in this report provides more detail about the assistance given to affected employees.

Looking ahead, we know that planning for the future means considering a range of different scenarios. We have considered how the four different future climate-related scenarios used in IPL's risk assessment process might impact on our portfolio valuation and present a discussion in this report. We also completed a scope of work, with the assistance of an independent third party, to financially quantify the climate-related risks previously identified for each of our businesses. These are important steps toward meeting the Australian Federal Government's requirements to integrate climate-related metrics into our financial reporting by 2025.

I welcome your interest in our 2023 Climate Change Report and invite your feedback as we embark on the challenges and opportunities ahead with transparency and in collaboration with our customers and stakeholders.

Paul Victor
IPL Interim CEO

1. Meng, Y., et al (2021) Geoderma, Nitrification inhibitors reduce nitrogen losses and improve soil health in a subtropical pastureland (388) at **https://www.sciencedirect.com/science/article/abs/pii/S0016706121000215**.

Highlights on our journey

DYNO NOBEL

IPL Leadership conducts an initial assessment of the risks and opportunities associated with climate change.

IPL joins the Australian Industry Greenhouse Network.

Setting of our first global greenhouse gas reduction target linked to executive remuneration: a 2% global reduction in tCO_2 e/t ammonia produced by 2017.

Creation of IPL specific 2° and 4° future climate-related scenarios and completion of our second climate specific risk and opportunity assessment with TCFD reporting adopted in our 2018 Sustainability Report.

Completion of the A$2.7m Moranbah Solar Hydrogen Feasibility Study, supported by A$0.9m from the Australian Renewable Energy Agency (ARENA).

Setting of our first absolute GHG reduction target of 5% by 2026 against our 2020 baseline.

IPL becomes a founding member of the Australian Climate Leaders Coalition (CLC), a group of cross-sectoral Australian corporate CEOs supporting the Paris Agreement commitments and setting public decarbonisation targets.

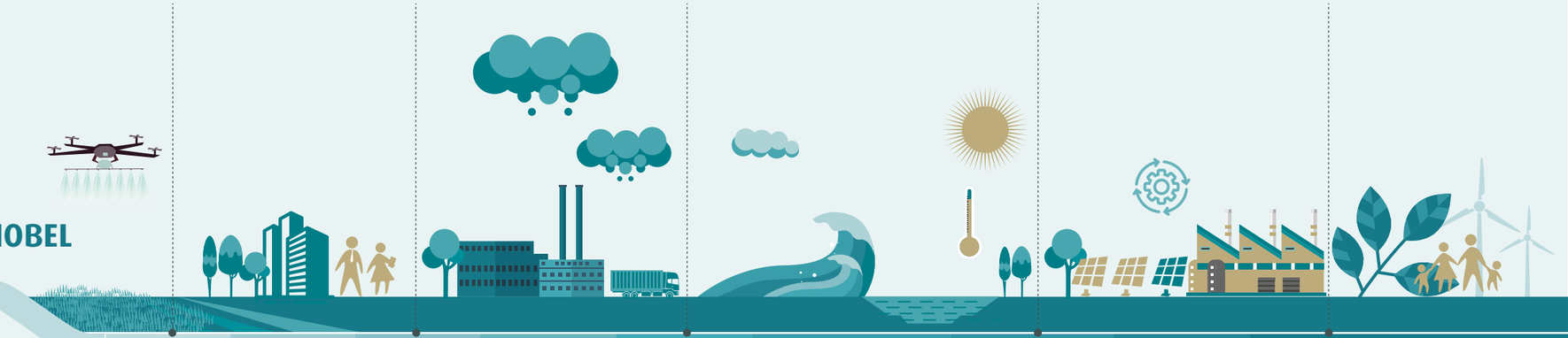
Pathway established to >42% reduction in scope 1&2 GHG by 2030 for current portfolio.

Development of Transition Plans to 2030 by business, supported by specific projects.

Establishment of Sustainability Capex to fund 2030 Transition Plans.

Design of scope 3 management strategies for integration at business unit level.

Investigation of Science Based Targets.



INCITEC PIVOT FERTILISERS

2010

2014

Setting of our first GHG intensity reduction target: a 1.5% reduction in GHG emissions per tonne of Australian manufactured product by 2015.

2015

2016

Completion of the Waggaman, Louisiana Ammonia Plant, which uses the industry's leading technology and is among the most efficient plants of its kind in the world. This increases our production, and therefore our global operational GHG emissions, but reduces our global emissions per tonne of ammonia.

2018

2019

The IPL Climate Change Policy is adopted by the Board. The IPL Board Charter and the Audit and Risk Management Committee Charter are updated to formally enshrine Directors' roles in relation to the strategic management and oversight of climate change related issues.

IPL joins the Carbon Market Institute.

2020

2021

5% absolute GHG reduction target brought forward to 2025.

25% medium-term target set for 2030.

Long-term Net Zero Ambition set for 2050.

Formation of the IPL Decarbonisation and Energy Transition Steering Committee, chaired by our CEO, to develop our Net Zero Pathway and oversee the incorporation of climate-related risks and opportunities into Company strategy.

Updating of IPL specific 1.5°C, 2°C, 3°+C and Delayed Action (Inevitable Policy Response) scenarios.

2022

2023

Release of the IPL Energy Policy.

A$50m in Sustainability Capital invested in decarbonisation projects.

A$5.6m Capex invested towards 2024 installation of Moranbah Tertiary N_2O Abatement.

The GI Green Ammonia Project passed through Front End Engineering Design (FEED) stage[1].

Completion of FEED stage for the Waggaman, Louisiana CCS[2] Project.

Approval of Tertiary N_2O Abatement Project at Louisiana, Missouri (LOMO) with installation targeted for 2025.

Scope 3 GHG sources fully mapped by business throughout our value chains, using cradle-to-gate scope 3 emission factors.

High level Just Transition Risk Assessment completed for employees across our major manufacturing facilities.

GHG REDUCTION PATHWAY ❯

5% by 2025

Pathway to >42% by 2030

Net Zero Ambition by 2050

NEXT STEPS ❯

Progress our decarbonisation projects, including:

7% – Moranbah Tertiary N_2O Abatement – Installation in 2024.

17% – Gibson Island Green Ammonia conversion – Partnership with FFI: FID[1] expected in late 2023.

Waggaman, Louisiana (WALA) CCS[2] – While we anticipate the sale of WALA, we are continuing to progress towards installation of this project, including working with CF Industries to assist them in bringing the project to completion – see p 21.

19% – Louisiana, Missouri N_2O Tertiary Abatement Project installation – targeted for 2025.

Investigation of SBTs[3] using Chemicals Sector methodology once released in 2024.

Engagement with individual suppliers on their scope 3 decarbonisation plans to 2030, and continuing to promote Enhanced Efficiency Fertilisers and incentives for farming customers to adopt these.

1. A final investment decision (FID) is expected late in the 2023 calendar year, shortly following the release of this report.
2. Carbon Capture and Storage – see page 21.
3. Science Based Targets.

Our position on climate change

Our approach

Advocating for global cooperation on climate change for an equitable global transition to a sustainable future.

- Our CEO is a member of the Australian Climate Leaders Coalition.
- IPL is a member of the Australian Industry Greenhouse Network (AIGN) and the Carbon Market Institute (CMI).

Reducing our contribution to climate change through manufacturing excellence, energy efficiencies and abatement opportunities.

- 5% absolute reduction by 2025.
- 25% absolute reduction by 2030, with pathway to more than 42% for our current portfolio.
- Net Zero by 2050 ambition.

Monitoring and partnering in the development of new technologies which bring climate change solutions.

- 2020 completion of the A$2.7m Moranbah Solar Hydrogen Feasibility Study, supported by A$0.9m from ARENA.
- FEED study in partnership with FFI, to investigate green ammonia at Gibson Island, supported by A$13.7m from ARENA.
- Partnering with Keppel Infrastructure to produce green ammonia using green H_2.

Working with our customers to develop leading technology solutions which reduce their greenhouse gas emissions.

- Our Enhanced Efficiency Fertiliser (EEF) range.
- Our DeltaE explosives technology, with a customer partnership to quantify the GHG reductions completed in 2022 and independent Limited Assurance completed in 2023.

Strategically managing the risks and opportunities associated with climate change to deliver sustainable value.

- 2018 2°C and 4°C scenarios refreshed in 2021 with 1.5°C and Inevitable Policy Response scenarios added.

Our climate change strategy

We recognise the challenge of reducing our own emissions while continuing to provide products which help our customers unlock the potential in the Earth.

We believe that innovative fertiliser and explosives products and services will play an increasingly important role in reducing GHG while increasing yields of food and fibre, and efficiently and effectively accessing the minerals and aggregates required for new technologies and infrastructure rebuilding in a world impacted by climate change.

Our Climate Change Policy describes how the management of the risks, opportunities and impacts associated with climate change is integrated into our six strategic drivers, on which the success of the Company is built. Together with our policy commitments, these strategic driver components form the four pillars of our Climate Change Strategy.

Our climate strategy pillars

Ensuring strong governance

Reducing operational emissions

Delivering products and strategies to reduce scope 3 emissions

Managing strategic business risks and opportunities

IPL's six strategic drivers

Talented and Engaged People: The right people in the right roles, within a culture of innovation, with climate change management roles, responsibilities and accountabilities clearly defined.

Manufacturing Excellence: Reduce emissions, increase efficiencies and explore new technology.

Leading Technology Solutions: Develop and deliver products and services which reduce customer GHG.

Customer Focus: Partner strategically for customer solutions and sustainable product use.

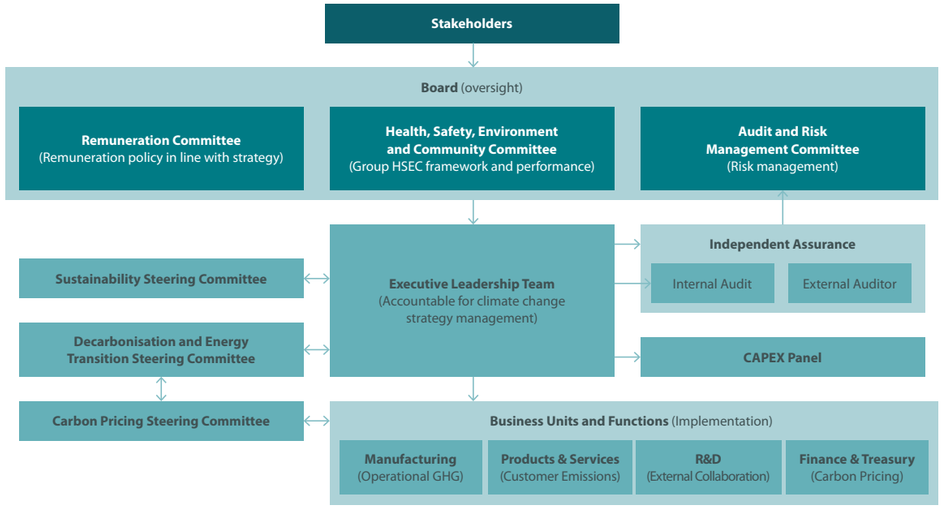
Profitable Growth: Manage climate-related financial risks and opportunities strategically.

Zero Harm: Build resilience to physical climate change risks and advocate for a just transition.

Climate change is a material and strategic issue for our businesses and is part of ongoing discussion and analysis at the most senior levels of management and the Board. Climate change considerations are included in strategy discussions, investment decisions and risk management oversight, and monitoring is assessed by the Board. We assess our performance against our climate change commitments, which is also reflected in the remuneration outcomes.

1. Ensuring strong governance

Our climate change governance



The **IPL Board** oversees IPL's climate change strategy, performance and governance responsibilities. The IPL Climate Change Policy was adopted by the Board during 2019, and the IPL Board Charter and the Audit and Risk Management Committee Charter formally enshrine Directors' roles in relation to the strategic management and oversight of climate change related issues. Climate-related issues are integrated into the Board's review and guidance of business strategy, major plans of action, risk management policies, major capital expenditures and acquisition and divestiture decisions. This includes oversight of the application and use of IPL's internal carbon pricing model.

The Board has taken a number of measures to ensure that its decisions are informed by climate change science and by expert advisers. This includes individual directors attending climate-change related briefing sessions led by experts; undertaking climate-change related programs, including the University of Cambridge Institute for Sustainability Leadership program for Non-Executive Directors; partaking in climate-change related delegations and roundtables, including the AICD Senior Director Delegation to Parliament and the AICD Roundtable on the Taskforce for Nature Related Financial Disclosures; and undertaking self-education by reading climate-change related material and attending webinars. The Board is also committed to transparency in reporting progress on IPL's climate change strategy, and put 2022 progress on the IPL Transition Plan, as provided in the 2022 Climate Change Report, to a non-binding, advisory vote to shareholders at the 2022 IPL Annual General Meeting, which received a strong 89.93% approval by shareholders. This non-binding, advisory vote will be held at least every three years, and will complement IPL's continued engagement with shareholders and other stakeholders about the risks and opportunities climate change presents for IPL's business.

The **Audit and Risk Management Committee (ARMC)** of the Board has oversight of climate-related risk management, although the Board retains overall accountability for IPL's risk profile. The ARMC reviews risk scenarios, risk analyses and mitigation strategies, as well as how climate change related risks are integrated into IPL's risk management processes. There are three key ways that the ARMC receives reporting on climate change related risks and opportunities:

1. Via standard risk reporting, which is undertaken at each of the five ARMC meetings per year;
2. The annual Risk Review process with the Executive Team (ET) that informs the ARMC on the Group's strategic risks and mitigation plans; and
3. By exception, other significant events and progress related to the management of climate change related risks are reported to the ARMC as required.

In addition, the Charter of the ARMC requires IPL's future climate-related scenarios to be updated every three years and reported to the ARMC. The scenarios are described in Section 4, and will be updated in 2024.

The **Health, Safety, Environment and Community (HSEC)** Committee of the Board assists the Board in overseeing the Group's health, safety, environment and community (HSEC) performance and governance responsibilities, and the adequacy of the Group's HSEC framework. This includes the management and governance of climate change issues relating to employee health and safety, such as heat stress and risks to our people associated with extreme weather events; emergency planning and response procedures for our operations relating to extreme weather events; and the management of risks to the environment which are likely to be exacerbated by climate change, such as procedures to monitor and plan for an increasing risk of pond overflows and other releases to the environment due to increasing or shifting rainfall patterns over time. Below the level of the Board, key management decisions are made by the CEO, the Executive Team and senior management, in accordance with their delegated authority. The HSEC Committee also assists the Board in its review and approval of IPL's annual Sustainability Report and Climate Change Report.

The **Remuneration Committee** of the Board provides oversight and advice in relation to the determination of remuneration policy and its application for senior executives, performance evaluation, the adoption of incentive plans, and various governance responsibilities related to remuneration. The Board has linked delivery of certain aspects of IPL's climate change strategy, and other environmental, social and governance (ESG) objectives relating to safety, energy efficiency and GHG emissions reduction, to Executive Key Management Personnel (KMP) remuneration outcomes for several years now.

Short-term incentive (STI) plan

For FY23, key performance indicators (KPIs) relating to the progress towards achieving IPL's short- and medium-term strategic GHG reduction objectives were incorporated under a separate Sustainability and Climate Change component (10%) of 'at risk' STI objectives for all Executive KMP. These objectives were designed to align with IPL's overall sustainability and climate change management strategies, and to focus each executive on the key short-term objectives within their area of influence that contribute towards IPL's longer-term milestones.

To address the challenges and opportunities associated with climate change, and specifically, GHG emission reductions, the FY23 STI for executives included performance conditions relating to the progression of operational GHG reduction projects and the further development of pathways to Net Zero, including:

- Continued integration of decarbonisation objectives into IPL's business strategy.
- KPIs related to the advancement of a green ammonia manufacturing opportunity at Gibson Island, Queensland in partnership with Fortescue Future Industries **(FFI)**: During FY23, this project progressed through Front End Engineering Design **(FEED)** stage, supported by a A$13.7m Australian Renewable Energy Agency **(ARENA)** grant from the Australian Federal Government, with the aim of reaching a final investment decision before the end of the 2023 calendar year.
- KPIs related to the Moranbah, Queensland tertiary N_2O GHG abatement project: Front end loading (FEL) 3 was completed during FY23 following the approval of full funding by the Board in FY22, with installation targeted for FY24.
- KPIs related to the Louisiana, Missouri (LOMO) tertiary N_2O abatement project: This project progressed through FEED this year, with final investment decision approved by the Board in August 2023, and installation targeted for 2025.
- KPIs related to permanent geological sequestration of the pure carbon dioxide (CO_2) stream from the Waggaman, Louisiana ammonia plant, including the signing of a binding Memorandum of Understanding with a third party to transport and sequester the CO_2 contingent on the divestment timeline for this asset: This project completed FEED stage in FY23. Development of the approach to project permitting and community engagement has begun ahead of Capex approval by the Board.
- KPIs related to progress on technology solutions to reduce GHG emissions: During FY23, these included completion of assurance of the results of a 12-month trial conducted in partnership with a mining customer, which showed a reduction in GHG emissions using Dyno Nobel's Delta E technology, the development of an electric MPU and solar charging station for mining customers, and investigations into the potential to use waste mine gas for manufacturing.
- KPIs related to progressing scope 3 emissions management strategies: these related to the integration of key suppliers and customers in the scope 3 strategies of our business units.

Long-term incentive (LTI) plan

With the practical and technological challenges related to reducing GHG emissions in the longer-term, a climate change related performance condition (10%) was introduced in the LTI Performance Rights Plan 2021/24 **(LTI 2021/24)** as an additional 'at risk' metric. This performance condition measures the Company's organisational performance against its climate change strategy, progress towards IPL's operational GHG emission reduction targets (announced in 2021), and its development of a scope 3 GHG emissions reduction strategy. Key success will be driven by material progress against longer-term objectives attached to the Moranbah N_2O GHG abatement project and the Waggaman CO_2 sequestration project.

The climate change performance condition within the LTI 2022/25 is focused on demonstrating material progress towards IPL's GHG reduction targets (and identified pathway) and scope 3 emission reduction strategy. Progress is focused on the following areas:

- Moranbah N_2O tertiary abatement project
- Waggaman permanent geological CO_2 sequestration project
- Louisiana, Missouri N_2O abatement project
- Gibson Island Green Ammonia Project in partnership with FFI

The performance period for the LTI 2021/24 Plan is 1 October 2021 to 30 September 2024 and is 1 October 2022 to 30 September 2025 for the LTI 2022/25 Plan. After expiry of the relevant performance period, the Board determines whether the performance conditions of the LTI Plan are satisfied based on testing of the performance measures at the end of the relevant performance period. To the extent that the performance conditions are satisfied during the performance period, the performance rights will vest or lapse.

Further information on the executive remuneration incentives and the STI performance outcomes for FY23 can be found in the Remuneration Report contained in **IPL's 2023 Annual Report.**

Management roles and responsibilities

The CEO and the Executive Team develop the Group's business strategy, planning, investment decisions and risk management processes. The CEO is responsible for delivering the climate change strategy approved by the Board.

The **Decarbonisation and Energy Transition (DET) Steering Committee** is chaired by the CEO and comprises selected executives and other senior management.

The CEO and DET Steering Committee are responsible for the development of IPL's Transition Pathway and the strategic management of business risks and opportunities related to climate change, including the incorporation of opportunities and key trends into business strategy.

The DET Steering Committee provides ongoing focus and executive sponsorship of projects and strategic opportunities as we seek to leverage key decarbonisation megatrends to exploit new profitable markets in our core geographies. We recognise that the global energy transition associated with climate change is increasingly impacting on our two customer facing businesses. For example, long-term growth trends in the mining sector are shifting away from thermal coal towards the metals required for the transition and this is reflected in industry forecasts of commodities demand. These trends have been incorporated into our business strategy through aligning our explosives business growth with predicted customer demand profiles by segment and the delivery of technology solutions to leverage these.

Trends in agricultural markets include not only high efficiency, low GHG fertilisers and soil carbon solutions, but a broader focus on more sustainable growing practices, precision agriculture and soil health. Following the strategic review of the fertilisers business undertaken in 2020, our long-term strategy is to grow our IPF business from a leading fertiliser company, manufacturing and distributing a range of domestic fertilisers, to a sustainable soil health company providing sustainable plant nutrition solutions to improve soil health. This strategy will be leveraged through our expansive distribution footprint to drive new growth products and services towards soil health.

The energy transition also presents new opportunities for business growth for IPL. Australia's abundant renewable resources make it a prime location for the rapid development of renewable hydrogen. IPL has a core competency in the manufacture, storage and transportation of ammonia and is well placed to play a role in 'green hydrogen', and green ammonia for a low-carbon economy. We aim to be an early participant in these new industry opportunities, and we will achieve this by proactively identifying projects, products and partnerships that seek to align with our existing competencies and enhance our core business. We recognise that the development of these growth opportunities is unpredictable due to direct linkages with government carbon policy and international trade, and see opportunities to build partnerships throughout the supply chain with credible counterparties a key to success.

In addition to the CEO, the DET Steering Committee comprises:

The **Chief Financial Officer (CFO)** is responsible for the management of the financial aspects of climate change. The CFO is the Executive Team member with oversight of the management and mitigation of principal risks, including the assessment and management of climate-related financial risks, that could materially impact the Group's business objectives and exceed its risk tolerance. The Chief Risk Officer reports to the CFO.

The CFO is also responsible for IPL's Capital Allocation Framework and IPL's internal carbon pricing model. The Capital Allocation Framework prioritises 'Sustainability Capital' as part of the order 1, or 'first taker' of capital, as shown in the diagram on page 14. This capital is allocated to progress a range of major projects required to decarbonise our operations.

Internal carbon pricing has been included in capital expenditure assessments for projects at our major manufacturing sites in Australia since Australian Carbon Credit Units (ACCUs) were introduced in 2012, with the price reflecting the market price of ACCUs. In 2021, the Board formally approved the application of this carbon price to all future growth capital and investment decisions. We are continuing to embed this into our processes, with the objective of applying the carbon price to all capital projects, consistent with the Capital Allocation Framework, during 2023. The price is currently A$32, and is projected to increase to A$50 by 2026, A$65 by 2030, A$130 by 2040 and A$258 by 2050. A range of carbon prices are also included in our scenario analyses (see Section 4).

The **Chief Strategy and Sustainability Officer (CSSO)** has significant experience in strategy and sustainability, and is tasked with overseeing the development of the IPL Net Zero Pathway and the integration of climate-related issues into Company strategy. This role is also responsible for the evaluation and prioritisation of developing technologies to decarbonise IPL's manufacturing operations, and has responsibility for progressing IPL's partnership with FFI to investigate green ammonia production at Gibson Island. The CSSO's team includes:

- The **VP Strategic Project Development** has significant experience in IPL's global manufacturing facilities and CAPEX approval process and is tasked with the assessment of the technical and commercial readiness of emerging technologies required for IPL's decarbonisation. The VP Strategic Project Development also works with operations-based project teams to provide the DET Steering Committee with an additional level of oversight regarding the progress of specific projects related to IPL's Net Zero Pathway.
- The **Corporate Sustainability Manager (CSM)** is an Environmental Geoscientist with postgraduate research in palaeoclimate reconstruction. As a subject matter expert in the fields of climate change and sustainability, the CSM has been assigned the responsibility of working with the Chief Risk Officer to oversee climate-related scenario risk assessment. The CSM also engages with investors and other stakeholders, in conjunction with the Company Secretary and General Manager Investor Relations, during discussions on IPL's Climate Management Strategy.

The **President Dyno Nobel Asia Pacific** and the **President Dyno Nobel Americas** oversee the manufacturing maintenance shutdown schedules required to implement new technologies to reduce emissions. As such, these positions are assigned the responsibility of implementing measures to achieve GHG emissions reductions at the manufacturing facilities within their regions and are overseeing the nitrous oxide abatement projects at Moranbah, Australia and Louisiana, Missouri, as well the Waggaman, Louisiana CCS project.

The **Chief Technology Officer** is responsible for the development of low carbon products and services, which reduce customer GHG and IPL's downstream scope 3 GHG.

The **Carbon Pricing Steering Committee (CPSC)** is chaired by the Corporate Sustainability Manager and comprises manufacturing, strategy, finance, treasury, environmental and energy contract management personnel across our global sites.

Through the CSM and VP Strategic Project Development, the committee continually monitors emerging carbon pricing developments and informs the CFO, the Decarbonisation and Energy Transition Steering Committee and the Board of relevant compliance requirements and market opportunities. For example, the future impact of the new carbon cap and trade regulation in Oregon, a result of the Governor's Executive Order, is currently being tracked by the CPSC. Corporate Legal and site-based personnel at our St Helens, Oregon site are continuing to engage with the relevant regulatory body and report back to the CPSC.

In Australia, three of our major manufacturing sites are captured under the Australian Federal Government's Safeguard Mechanism, which has essentially established a Cap and Trade scheme for any site which exceeds its facility-specific emissions baseline within a June year-end period. GHG emissions in excess of the baseline requires the surrender of one ACCU for every tonne above the facility baseline. With the introduction of Safeguard Mechanism 2.0 on 1 July 2023, three important changes have been enacted:

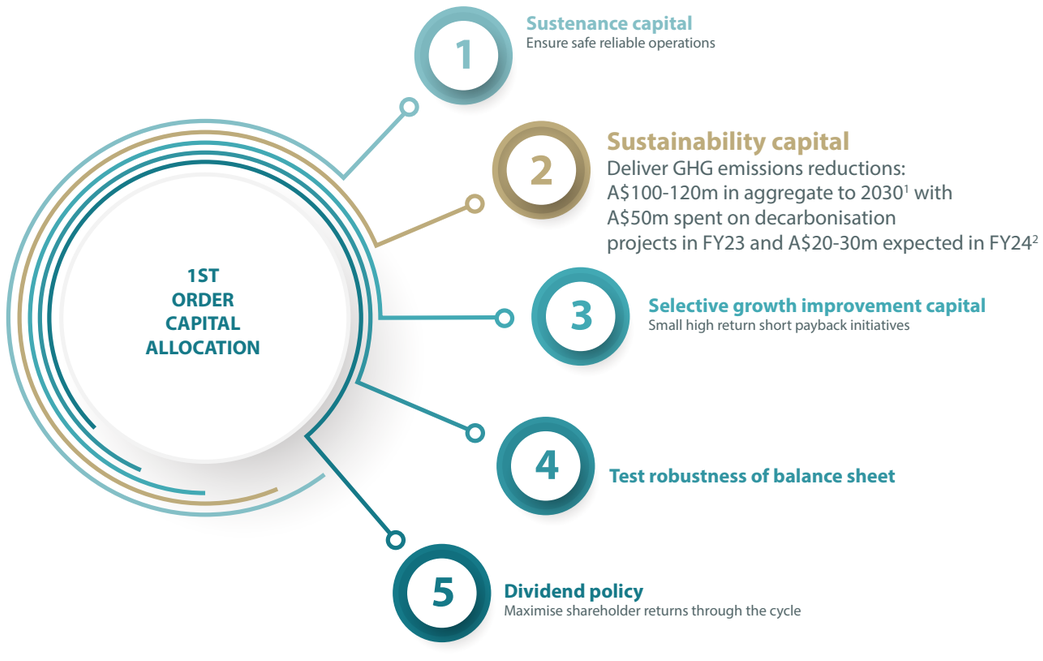
- 1. Facility specific baselines are set to decline by 4.9% each year;
- 2. Safeguard Mechanism Credits (SMCs) have been introduced and will be granted to facilities with GHG emissions below their baseline in each June year-end period. One SMC will be granted for each tonne below the baseline; and
- 3. While SMCs are not offsets (i.e., they do not represent a tonne of carbon sequestered or abated, as ACCUs do) they each represent a 'tonne below baseline' or 'credit', and, like ACCUs, are tradable, bankable and able to be used to settle liabilities accrued at facilities which exceed their baselines.

Under the Emissions Reduction Fund, ACCUs can be credited for certain projects which reduce emissions. Our strategy for maximising opportunities related to carbon pricing schemes is managed by the VP Strategic Projects and the CSM, as members of both the CPSC and the DET Steering Committee. The strategy includes examining IPL's exposure to current, emerging and likely future carbon pricing schemes and incentives, and regular reporting of opportunities to the DET Steering Committee for consideration.

ACCUs and SMCs can also be purchased on the open market. The CPSC oversees the processes which ensure that actual facility emissions are monitored against baselines and any regulatory requirements are met. Our compliance procedure for the Safeguard Mechanism is set out in the IPL Carbon Accounting Policy (Australia).

Capital allocation framework

In 2022, the DET Steering Committee established 'Sustainability Capital' within the Capital Allocation Frameworks for its explosives and fertilisers businesses, in order to progress a range of major projects required to decarbonise our operations.



1. Projected spend to 2030 does not include: A$150m for the Waggaman site due to the anticipated sale of this asset – see page 21; or any spend in relation to the Gibson Island Green Ammonia project following a final investment decision, which is expected by the end of the 2023 calendar year.
2. Expected spend in FY24 does not include A$60m for the Waggaman site due to the anticipated sale of this asset – see page 21.

Working to ensure a just transition

First used in the 1970s, the term 'just transition' refers to the need to ensure workers' rights and livelihoods are given the same priority as environmental and economic imperatives when companies and broader economies are changing production practices to become more sustainable.

The challenge of climate change has raised the importance of a just transition for workforces and communities, as it is increasingly recognised that the global transition towards a low-carbon economy will have both positive and negative impacts on employment. For this reason, IPL recognises that ensuring a just transition is integral to reaching the goals of the Paris Agreement and is working to align our decarbonisation strategy with the principles of a just transition.

For IPL, a 'just transition' means decarbonising our operations and supply chains in a way that is orderly and timely, fair and equitable, and meets the goals of the Paris Agreement. Our approach seeks to protect and sustain the employment opportunities we provide, and therefore the communities which depend on these, for a just transition, and we commit to retain, retrain, redeploy and/or compensate workers affected by our decarbonisation projects.

As a manufacturer of explosives and fertilisers for the mining, quarry and construction, and fertiliser industries, we manufacture and supply products and services which will continue to be in demand throughout the transition and into the future. All but the most extreme of our future climate-related scenarios describe increasing demand for fertilisers to maximise food production and, in the 1.5°C and 2°C scenarios, for biofuels; the mining of metals and new world minerals for new technologies will be required, and demand for explosives from the quarry and construction sector is expected to increase where physical impacts occur. For these reasons, unlike some other industries, our ambition is not orderly closure, but successful decarbonisation of our manufacturing assets to continue to provide our products and services in a decarbonised economy, and to maintain the employment opportunities we provide.

Further, the energy transition is providing new opportunities for our business to grow as the demand for low carbon hydrogen in the form of green ammonia increases. Our Green Ammonia projects at Gibson Island and Gladstone, should they proceed, will assist us in creating and supporting access to 'green and decent' jobs and upskilling workers, and our Net Zero Pathway will allow us to transition our assets and retain our workers.

Assessment of risks regarding a just transition

Due to our 'retain and decarbonise' strategy described above, a high-level assessment indicates that our portfolio is resilient in terms of just transition risks, with just one facility, employing 177 personnel, identified during the assessment. While our exposure to thermal coal markets made up less than 5% of our revenues in 2023, this exposure is almost entirely associated with this single identified Dyno Nobel manufacturing asset in Cheyenne, Wyoming which currently supplies ammonium nitrate explosives to the nearby Powder River Basin. As described under 'Risks and Opportunities' in Section 4, demand from this market has already declined and this is being managed through further expansion into the quarry and construction and metals markets. As a second strategy, the Cheyenne facility is set to expand into the manufacture of Diesel Exhaust Fluid (DEF), a urea-based additive which reduces NOx emissions from diesel vehicles. This will further reduce the facility's reliance on thermal coal markets through the creation of another income stream in the short term.

For the medium to long term, we are investigating future options to manufacture this product at Cheyenne by converting the facility from natural gas to green hydrogen for ammonia, and reacting this with CO_2 purchased by pipeline, which would become available as the carbon capture facilities currently being investigated for power plants in this region become more common.

> **" A just transition works to ensure that the transition to net-zero emissions and climate resilience is orderly, inclusive and just, creates decent work opportunities and leaves no-one behind. This depends on a fair process built on social dialogue, stakeholder engagement and a universal respect for fundamental labour rights and other human rights. Just Transition is not an independent practice; it is a principles-based approach for climate change mitigation and adaptation activities, relevant for all countries and sectors."**
>
> United Nations Global Compact, Introduction to Just Transition: a business brief

Finally, the nature of the manufacturing facility means that it could potentially be repurposed to produce ammonia-based fertilisers should the region transition away from thermal coal to farming, as is being progressed by the Reclaiming Appalachia Coalition, supported by the US Just Transition Fund.

Should any of our sites become uncompetitive for any reason, our approach is to actively engage with those affected, ensure their feedback is incorporated and offer retraining, assistance through locally based outplacement services, and retirement and retrenchment packages where employees choose these options.

Assisting employees at Gibson Island

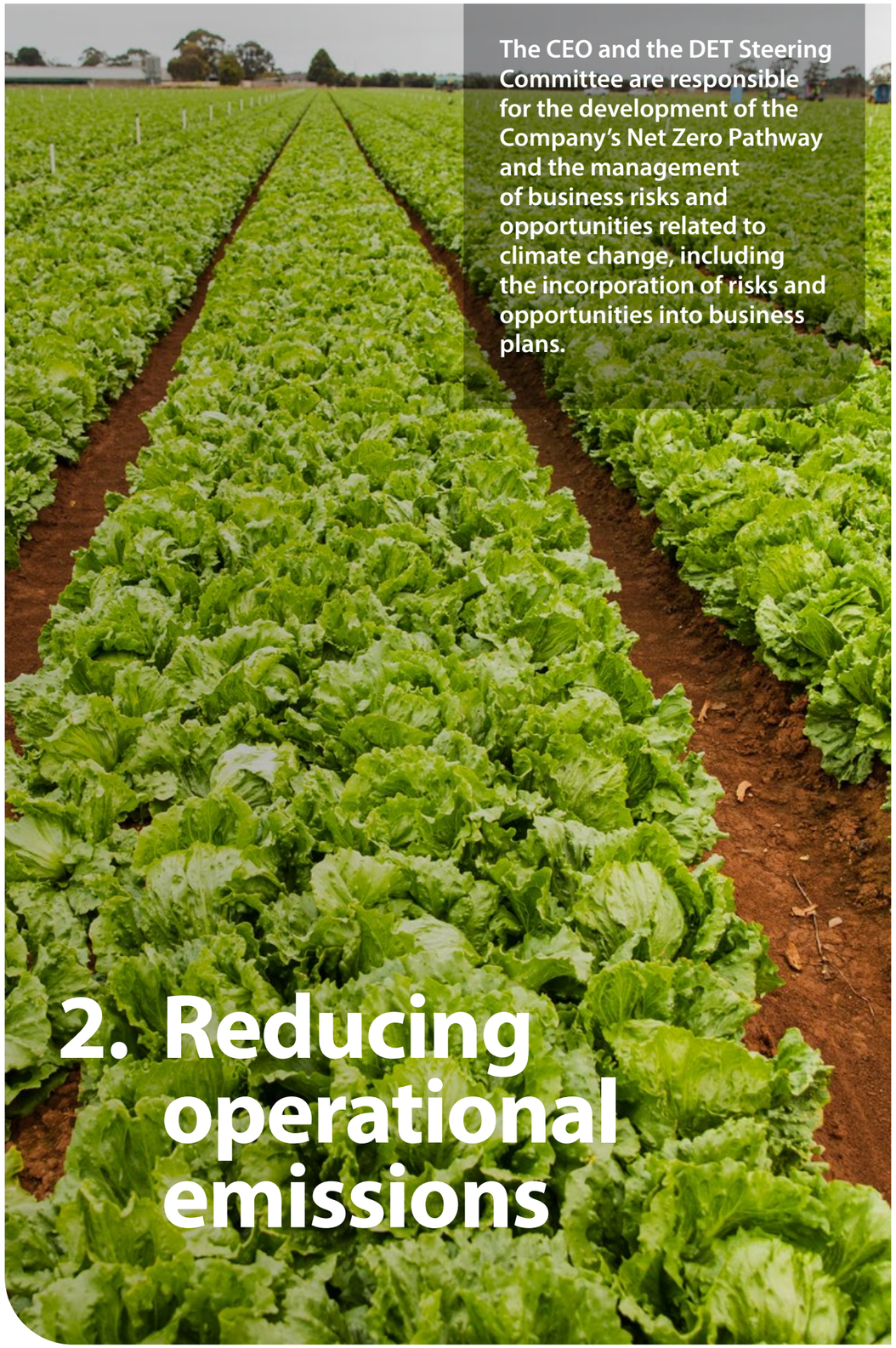
During 2023, 193 employees who were affected by the cessation of natural gas-based manufacturing at our Gibson Island site in Queensland, Australia, were referred to outplacement services, with 75% engaging the services and 58% known successful transitions made. In this case, natural gas could not be secured at a competitive price to continue ammonia manufacturing until the facility could be converted to green ammonia. Read more about the assistance given to affected employees on page 23 and about our plans to commence manufacture of green ammonia at this site in partnership with Fortescue Future Industries (FFI) on page 22.

Engaging with policy makers for a just transition

IPL continues to engage with Australian policy makers to advocate for a level playing field between domestic manufacturers and imported products to maintain Australian employment opportunities and domestic supply chains.

We also advocate for access to natural gas at a competitive price for Australian manufacturers that allows manufacturing facilities and jobs to be maintained until decarbonisation of these assets can occur, for an orderly economic and just transition.

Further, this advocacy also aims to avoid carbon leakage associated with the closure of Australian manufacturing facilities and their replacement with imported overseas products.



The CEO and the DET Steering Committee are responsible for the development of the Company's Net Zero Pathway and the management of business risks and opportunities related to climate change, including the incorporation of risks and opportunities into business plans.

2. Reducing operational emissions

OUR STRATEGY 2. REDUCING SCOPE 1&2

The strategy being applied by the DET Steering Committee to progress the development of IPL's Net Zero Pathway, and reach our reduction targets, includes the following core pillars:

1. The identification of emissions reduction technologies required to reduce each of IPL's emissions sources. These technologies include renewable hydrogen (hydrogen obtained from splitting water using renewable energy, rather than natural gas) Carbon Capture and Storage, N_2O abatement technologies, renewable electricity technologies (solar, wind, hydro, pumped hydro) and alternate feedstocks (other than hydrogen from splitting water).
2. The ongoing assessment of the technical and commercial readiness of each of these technologies, by facility, at the scale required to decarbonise IPL's manufacturing facilities, including an assessment of materiality and scale, technology readiness levels, access to critical infrastructure required for each, the government policies which may support these in IPL's different operation regions, financing and 'bankability' considerations and vendors and technology partners.
3. The prioritisation of appropriate technologies and project development through feasibility studies such as IPL's A$2.7m 2020 Solar Hydrogen Feasibility Study, assessment of alignment with long-term asset strategies, the strategic formation of value chain partnerships and engaging with governments across our operating jurisdictions.

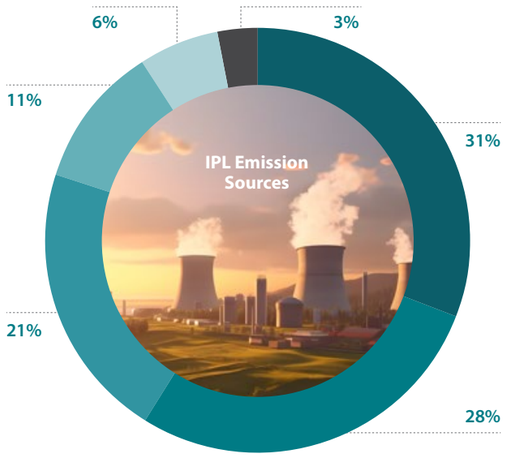
During 2023, this process has resulted in work to progress one project which had capital funding approved last year and is on target for installation in 2024, a second project reaching Final Investment Decision, and the progression of several other projects that have reached the detailed assessment phase. Together, these provide a pathway to a >42% reduction in operational GHG by 2030 for our current portfolio. Our Transition Pathway, along with our GHG emissions sources and projects by business, is described on the following pages.

Long-term climate change – pathway to net zero emissions

1. Technology readiness levels (TRLs) are a method for estimating the maturity of technologies during the acquisition phase of a program. The use of TRLs enables consistent, uniform discussions of technical maturity across different types of technology.

Our operational GHG emissions profile

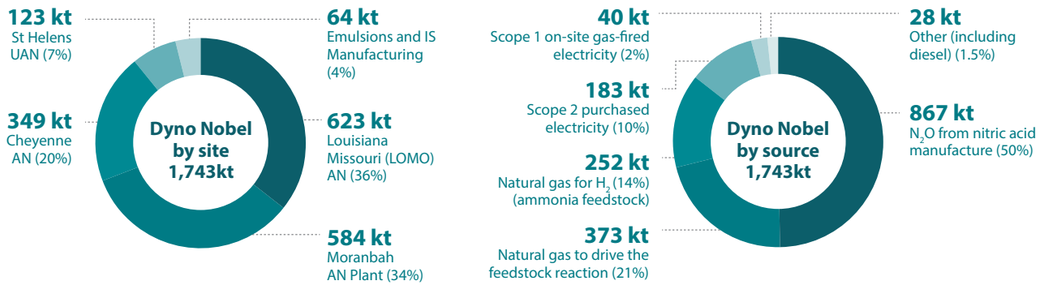
Our Baseline Year (2020)[1] operational GHG emissions by source (%)



GHG EMISSION SOURCE	TECHNOLOGY AND KEY ENABLERS TO REDUCE	% OF GHG
Nitric Acid N_2O Process Emission	N_2O abatement technologies	31
Natural Gas to drive the ammonia feedstock reaction[2]	CCS to permanently sequester; conversion to green hydrogen production; other alternative feedstocks	28
Natural Gas for H_2 (ammonia feedstock)	CCS to permanently sequester; conversion to green hydrogen production; other alternative feedstocks	21
Scope 2: Purchased Electricity	Rooftop solar installations, PPA's, grid decarbonisation	11
Scope 1: On-site gas-fired electricity	Industrial scale solar installation with batteries; grid connection to access PPAs	6
Other	Electric on-road vehicles and excavators; offsets	3

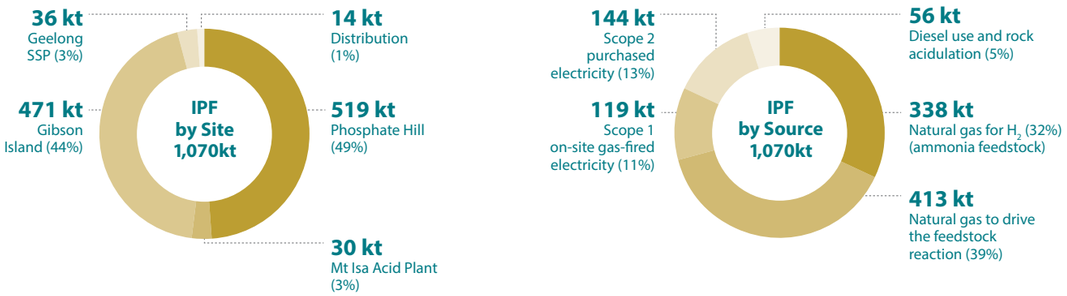
1. Our 2020 baseline has been adjusted for the anticipated sale of the Waggaman, Louisiana plant, to 2,813,273 tCO_2e.
2. 99% of our 'natural gas for energy' use is to drive the reaction to convert methane, CH_4 to H_2 for ammonia making in our ammonia plant reformers.

Baseline year (2020) operational GHG emissions for our explosives business (kt CO_2e)[1]



1. Our 2020 baseline has been adjusted for the anticipated sale of the Waggaman, Louisiana plant, to 2,813,273 tCO_2e.

Baseline year (2020) operational GHG emissions for our fertilisers business (kt CO_2e)[1]



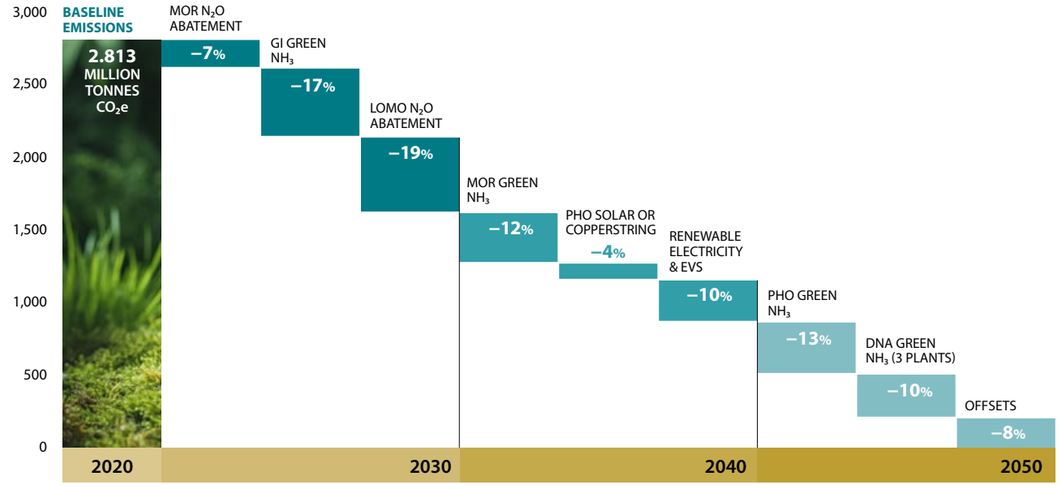
1. Our 2020 baseline has been adjusted for the anticipated sale of the Waggaman, Louisiana plant, to 2,813,273 tCO_2e.

Our operational GHG transition plan

During 2023, we continued to progress a range of operational (scope 1&2) GHG reduction projects which provide a pathway to a > 42% reduction by 2030 against our 2020 baseline.[1] Our Transition Pathway to 2050 is taking shape, supported by these projects.

Transition Pathways for our fertiliser and explosives businesses are also shown below with projects to 2030 well progressed. These projects are described on the following pages and include the Waggaman, Louisiana (WALA) CCS project. While we have continued to progress this project, our baselines and pathways are shown without the WALA facility, as we anticipate that the sale of this asset will be complete by the end of 2023. The timing of steps required in our Transition Pathway after 2030 have been estimated using our climate-related scenarios. While the uptake of renewable electricity and electric vehicles is expected to occur progressively, for simplicity we have inserted the reductions associated with these as a single block at the time horizons our scenarios predict their uptake to be mostly complete.

2020 Baseline: 2.8 million tonnes CO_2e[1]



Key Enablers for the technologies required to decarbonise our operations are summarised below:

N_2O Abatement

- Policy incentives.
- Implementation of N_2O abatement requires plant shutdowns at specific sites, which are only available in certain years due to 3-4 year plant maintenance schedules.

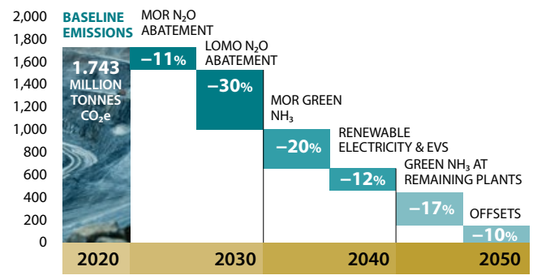
Green Ammonia (renewable hydrogen)

- Reductions in electrolyser capital costs through increased R&D spend and value manufacturing at scale.
- Large amounts of low-cost solar and wind supplied from the grid, or from behind-the-meter renewable energy installations where grid connectivity is limited.
- Well designed policy incentives.

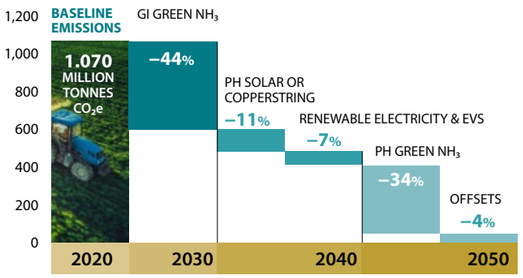
CCS

- Policy incentives.
- Well mapped and suitable geological formations located close to ammonia manufacturing sites (primarily in the US).
- Securing CCS offtake contracts.

Dyno Nobel Transition Pathway



Incitec Pivot Fertilisers Transition Pathway



1. IPL's and Dyno Nobel's 2020 operational (scope 1&2) baselines have been adjusted for the anticipated sale of the Waggaman, Louisiana plant.

Our explosives business 2030 transition plan

Moranbah Tertiary N_2O Abatement Installation

11% **Reduction against Dyno Nobel 2020 baseline[1]**

The Dyno Nobel Moranbah nitric acid plant was built in Queensland in 2012 as part of the Moranbah ammonium nitrate manufacturing facility. The plant was built with secondary abatement installed, which reduces potential N_2O emissions by 50-60%, and has abated an estimated ~400,000 tCO_2e each year for the past nine years. Since these reductions were being achieved well before our 2020 baseline was set, further reductions require technology less commonly applied to nitric acid plants.

After investigation in 2021, IPL approved the installation of tertiary N_2O abatement at Moranbah. Up to 99% of N_2O process emissions, which are created during nitric acid manufacture, are removed from the tail gas stream through catalytic conversion to naturally occurring nitrogen and oxygen. Once installed, a further ~200,000 tCO_2e will be abated annually at Moranbah. This will equate to a 7% reduction against IPL's 2020 baseline and an 11% reduction for the Dyno Nobel business against its 2020 baseline[1].

During 2023, A$6.3m was invested to progress the project, with installation targeted for the first half of 2024. This project will underpin the achievement of IPL's 5% by 2025 reduction target.

LOMO Tertiary N_2O Abatement

30% **Reduction against Dyno Nobel 2020 baseline[1]**

Dyno Nobel's Louisiana, Missouri (LOMO) AN manufacturing facility has the Company's only nitric acid plant without some form of abatement already installed. For this reason, abatement of N_2O at LOMO has been under investigation for some time. In 2021, we installed Continuous Process Emissions Monitoring (CPEM) technology at the plant to improve measurement and allow a more accurate 2020 baseline to be established, with stack testing to further confirm actual emissions. During 2022-23, this testing resulted in confirmation that the measurement is now fully calibrated and a slight restatement of 2020[2], 2021 and 2022 GHG emissions from this source.

This project passed through Front End Loading (FEL) stage in 2023 with A$2.8m invested and was approved by the Board in August 2023 with installation targeted for 2025. Once installed, ~500,000 tCO_2e will be abated annually at LOMO. This will equate to an 18.5% reduction against IPL's 2020 baseline[1] and a 30% reduction for the Dyno Nobel business against its 2020 baseline[1].

Partnering with Keppel Infrastructure on green ammonia production

Like our fertilisers business, our explosives business has a core competency in the manufacture, storage and transportation of ammonia and is well placed to play a role in developing green ammonia for a low carbon economy. Green ammonia is produced using hydrogen from water electrolysed using renewable energy, rather than hydrogen made from natural gas. This eliminates the need for natural gas as both a feedstock and an energy source, greatly reducing GHG.

Because the ammonia molecule is a carrier of hydrogen, green ammonia can be used as a feedstock/fuel for green energy generation, or to provide green hydrogen solutions for other industries, and it is much safer to handle and transport than hydrogen gas.

In 2021, we signed a Memorandum of Understanding (MOU) with Keppel Infrastructure Holdings Limited (Keppel Infrastructure) and Temasek to investigate the feasibility of producing green ammonia at industrial scale in Queensland and New South Wales, Australia for export to meet the rapidly growing market demand for carbon-free energy in Asia.

Since that time Keppel has invested in the **CQ-H2 Central Queensland renewable hydrogen project** at Gladstone. Based on the potential offtake of hydrogen from the CQ-H2 project, in May 2023 we signed a second MOU with Keppel to explore building a world-scale green ammonia production and export facility, and also expanded our combined interests to the US and other geographies. Should it proceed, the Gladstone facility would be capable of producing up to 850,000 tonnes of green ammonia per annum for both domestic and overseas consumption, potentially including an end-to-end export supply chain to Singapore and Asia. Keppel and IPL will work closely with the Queensland Government to explore all essential infrastructure, licences and approvals.

Operating in a hard-to-abate sector means we need to be creative and explore a range of opportunities as we look to decarbonise beyond 2030 to our 2050 Net Zero Ambition. The proposed green ammonia plant at Gladstone would allow Dyno Nobel to enter the emerging ammonia energy sector with tier 1 partners and provide business growth that is unconstrained by carbon emissions. It also provides a strategic flexibility for the long-term decarbonisation of our Australian assets, reducing our reliance on natural gas for manufacturing. Finally, it progresses the development of the Australian hydrogen industry which, in turn, provides a clean green fuel which can be used to decarbonise other sectors – see 'The role of green hydrogen as ammonia in a zero-carbon energy system' on page 22.

1. 2020 baselines have been adjusted for the anticipated sale of the Waggaman, Louisiana plant.
2. The IPL 2020 Baseline was restated from 3,991,396 to 4,093,875 tCO_2e due to restatement of scope 1 emissions resulting from improved N_2O measurement technologies installed at LOMO during 2021.

Sale of the Waggaman ammonia plant

Waggaman Carbon Capture Facility and CCS MOU

During 2023, the FEED study was completed for the proposed Carbon Capture Facility (CCF) at the Dyno Nobel Waggaman, Louisiana (WALA) ammonia manufacturing facility. The CCF is designed to capture the pure stream of CO_2 created during the ammonia manufacturing process. Due to its high concentration, this CO_2 stream is much more economic to process than many other industries' CO_2 streams, with only drying and compression required before transport via pipeline to a permanent geological sequestration site.

Louisiana is an ideal site for CCS due to its geology, its existing CO_2 pipeline infrastructure, and a range of potential local partners with experience in using proven technology and management techniques to meet the very stringent regulatory requirements set by the US EPA for Class VI wells.

Following Memorandums of Understanding (MOUs) established in 2022 with several shortlisted parties to work through options for transport and deep well injection of the CO_2, internal selection of a preferred partner was made in 2023. Once confirmed, the chosen partner will need to work through the approval process for the Class VI injection well operation.

This CCS project would reduce CO_2 emissions from the plant by ~800,000 tCO_2 per annum and the targeted commissioning date of the CCF facility is currently 2026.

Sale of the Waggaman ammonia plant

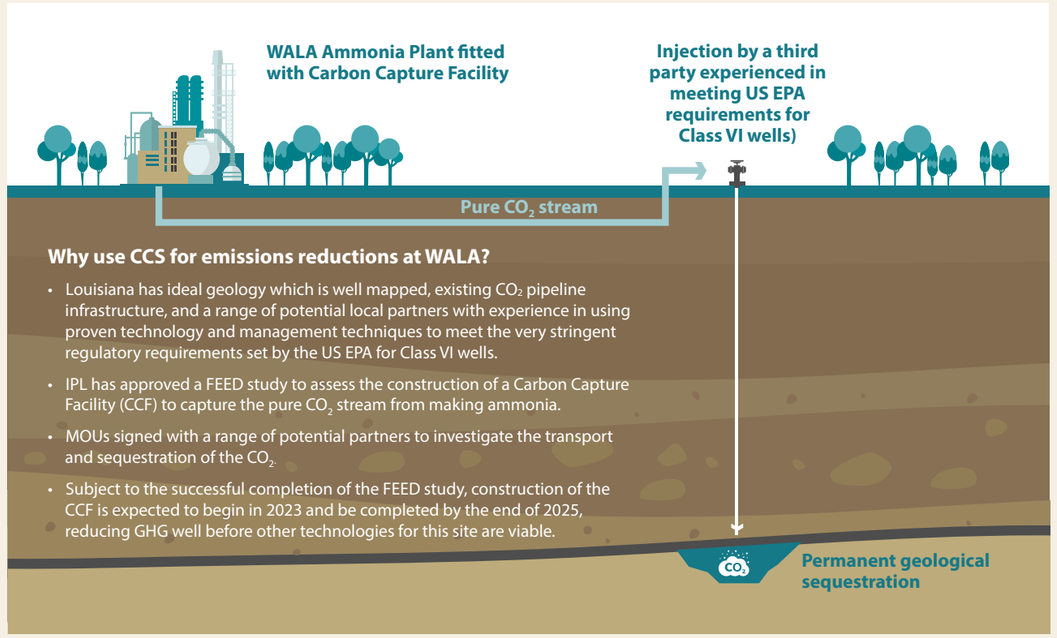
IPL reached an agreement for the sale of WALA to CF Industries Holdings, Inc. (CF) in March 2023[1]. About 80% of WALA's ammonia is sold to other customers, with 20% used by Dyno Nobel's LOMO facility to manufacture AN explosives for the US market. To secure this supply and retain the asset's strategic value, a 25-year ammonia supply agreement was secured with CF for up to 200,000 short tons of ammonia a year.

CF Industries states that its mission is to provide clean energy to feed and fuel the world sustainably, and has announced that it anticipates implementing CCS at the site on an accelerated timeline, increasing its network's low-carbon ammonia production capability and supporting Louisiana's and the US climate goals. We are continuing to work on advancing the CCS project and are working with CF to assist them in bringing it to completion.

Impact on IPL's and Dyno Nobel's baseline GHG emissions

As a result of the sale agreement with CF, and in line with best practice, both IPL and Dyno Nobel's 2020 baselines will be reduced by the tonnes of CO_2e that the WALA facility contributed to our operational GHG in 2020. This is because the management of the ongoing scope 1&2 GHG from the plant will pass to CF's portfolio. Because Dyno Nobel will be purchasing only a portion of the ammonia that WALA manufactures, our upstream scope 3 GHG will increase only marginally while our downstream scope 3 GHG will decrease by a much greater amount. See Section 3 for details.

Waggaman, Louisiana Carbon Capture and Permanent Sequestration



1. The divestment of Waggaman remains subject to US anti-trust regulatory clearance and the completion of other customary closing conditions. Under the terms of the sale agreement, these conditions must be satisfied within 24 months of execution of the agreement.

Our fertiliser business 2030 transition plan

The Gibson Island Green Ammonia project is a partnership between IPL and FFI to investigate green ammonia production at Incitec Pivot Fertilisers' Gibson Island site.

The site has used natural gas to produce hydrogen (H_2) for the manufacture of ammonia (NH_3) since it was built in 1969 (obtaining the nitrogen (N) required from the air).The proposal under investigation is for FFI to construct an on-site water electrolysis plant to produce hydrogen from the electrolysis of water (H_2O) using renewable electricity, thereby dramatically reducing GHG emissions. FFI would develop and operate the hydrogen manufacturing facility, with IPL operating the ammonia manufacturing facility, using FFI's green hydrogen as the feedstock.

The project progressed through front end engineering design (FEED) stage in 2022 and 2023 supported by an A$13.7m ARENA grant, and a final investment decision is expected before the end of the calendar year. The project will require government support to proceed. Should it secure this, it will be Australia's first industrial scale green ammonia production facility, demonstrating existing infrastructure can be retrofitted to utilise zero-emissions energy sources.

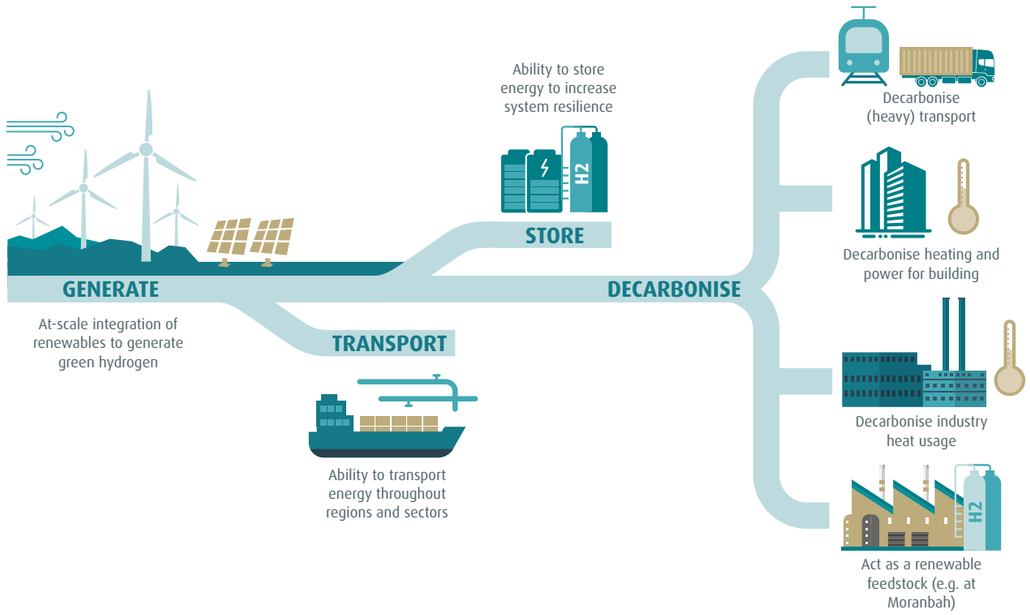
GI Green Ammonia project

44% **Reduction against IPF 2020 baseline**

The proposed water electrolysis facility would produce up to 70,000 tonnes of renewable hydrogen per year and replace all of Gibson Island's current gas feedstock and 99% of its natural gas energy use. This would result in a 44% reduction for Incitec Pivot Fertilisers against its 2020 baseline and a 17% reduction against IPL's 2020 baseline.

The Gibson Island Green Ammonia project could play an important role in developing Australia's hydrogen potential. While green hydrogen is not expected to be price competitive[1] with natural gas for ammonia made for traditional uses until around 2040, ammonia made with green hydrogen has the potential to contribute significantly to the decarbonisation of energy systems and heavy vehicle transport by offering a practical, carbon-free way to store and transport the hydrogen in a safer form (as ammonia) as well as a green fuel in its own right.

The role of green hydrogen as ammonia in a zero-carbon energy system[2]



1. See our scenarios in Section 4 of this report.
2. Adapted from **Unlocking the Green Hydrogen Economy through Business Model Innovation – EGHAC.**

A Just Transition for Liam

Liam Frizell was employed at our Gibson Island site five-and-a-half years ago, moving from the Sunshine Coast to Brisbane to take up a role as a Trainee Process Technician in the granulation plant. This position required no qualifications or experience and all training was provided by IPL. Since that time, Liam has been promoted several times, working in positions including Panel Operator in the granulation plant, Team Support and finally Production Supervisor as a team shift leader responsible for the granulation, ammonia and urea plant teams.

With the inability to secure natural gas for continued production at the site, Liam faced retrenchment for the first time in his career.

"I had heard of it happening to other people before but hadn't been through it myself. But HR was very supportive. They went over and above what they had to do to assist."

Liam Frizell, second from right, with the Gibson Island Granulation Plant team at final shutdown.

The closure of the manufacturing facility was completed in stages, with Liam being able to access a range of services.

"Services were provided depending on what stage of life we were at. IPL provided things like financial planning with outside resources, career planning, review of our resumes with professional assistance to update them, other workshops for assistance on job seeking, and the Employee Assistance Program was promoted. They even offered retraining packages to upskill us, and they paid for that. For me, I did my turbine ticket with an outside provider, and it was all paid for. Through discussion of my options, I found there was an opening at the Moranbah site. They organised an interview and flew me to the site for a visit to make sure I'd be suitable. This was locked in six months before finishing up, so having it sorted meant I could focus on my work decommissioning the plant at Gibson Island."

When asked why he chose to apply for the role of Process Technician in the ammonia plant, which involved a move 12 hours north to Moranbah, Liam says: "I really wanted to stay with the business, as it's a great company to work for. This role gives me more technical training, so expanding my experience and skills as a Process Technician, but this time in an ammonia plant – it's something different. And the Company paid for my moving costs, too."

When asked what's next, Liam answers, "I'll be looking for whatever new opportunities come up as a team leader in the future."

An artist's impression of the Gibson Island Green Ammonia facility. Should the project proceed, the FFI operated water electrolysis facility would be built as shown to the centre of the image. IPF's existing Gibson Island fertiliser distribution, manufacturing and port facilities are shown to the right and top right of the image.

3. Delivering products and strategies to reduce scope 3 emissions

We believe our existing and developing fertiliser products will play an increasingly important role in reducing land clearing and assisting the agriculture sector towards carbon neutrality by increasing yields of food and fibre. We know that innovative explosives products and services will be important in order to efficiently and effectively access the minerals and aggregates required for new technologies and infrastructure rebuilding in a world impacted by climate change. We recognise that increased supply chain collaboration and integrated business planning will be required to manage and reduce scope 3 emissions into the future.

Our scope 3 emissions inventory

Scope 3 emissions are indirect emissions which arise from facilities owned and operated by third parties associated with our value chain activities both upstream and downstream of our business. These GHG emissions are beyond a company's operating perimeter and operational control, making them more difficult to calculate and to influence.

For example, our upstream scope 3 GHGs include not only the emissions which arise from the manufacture of the products we buy, but also the emissions released by our suppliers, right back up the value chain to the GHG emissions arising from the extraction of the raw materials purchased by their suppliers to make the products that we buy, including the GHG arising from the transport used to deliver them to our gate. These are called 'cradle-to-gate' GHG emissions.

Our downstream scope 3 GHG emissions include the GHG arising from transport to deliver our products to customers, as well as the GHG emissions released when our customers use our products. We have several products designed to reduce customer GHG and continue to increase our product range. See the case Studies on DeltaE and our Enhanced Efficiency Fertilisers (EEFs) on pages 30-31.

As reported last year, during 2022 we improved our scope 3 GHG reporting and management through engaging a specialist third party to review our global GHG inventory, including our scope 3 calculation methodology, as part of our investigation of Science Based Targets. This scope of work aligned our scope 3 calculations more closely with the **GHG Protocol Corporate Value Chain (scope 3) Accounting and Reporting Standard** and gave us a reliable scope 3 baseline, using EcoInvent cradle-to-gate life cycle analysis (LCA) emissions factors for purchased products. Our IPL scope 3 2020 baseline GHG are shown by business in the graphs to the right.

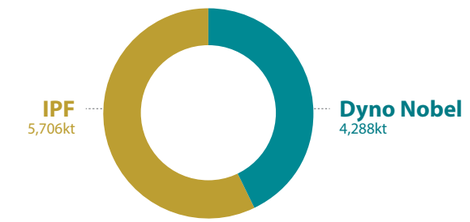
During 2023, we continued to work across our business units to develop the next steps in our scope 3 management strategy framework. These are presented for each of our businesses in the scope 3 Value Chain diagrams on the following page, which also show the complexity of tracking and managing scope 3 GHG emissions.

We now have scope 3 GHG sources fully mapped throughout our value chains, and aim to have systems in place to track and manage scope 3, just as effectively as we track and manage other supplier information, by FY25.

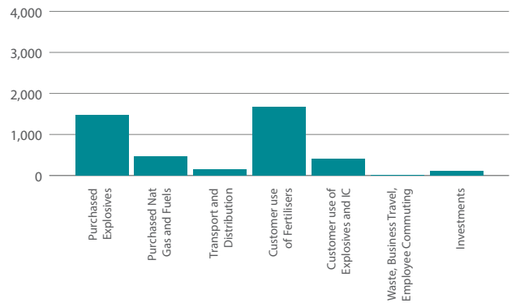
Impact of the sale of the Waggaman ammonia plant

During 2023, IPL reached an agreement for the sale of WALA to CF Industries Holdings, Inc. in March 2023[1]. Because Dyno Nobel will be purchasing only a portion (~20%) of the ammonia that WALA manufactures going forward, our upstream scope 3 GHG will increase only marginally while our downstream scope 3 GHG will decrease by a much greater amount. There are two reasons for this decrease. Firstly, since about 80% of WALA's ammonia is sold to other customers, our sales of ammonia will decrease by this entire amount. Secondly, the downstream scope 3 emissions factor associated with ammonia sales and use in fertiliser markets is much higher than the upstream scope 3 factor associated with purchased ammonia.

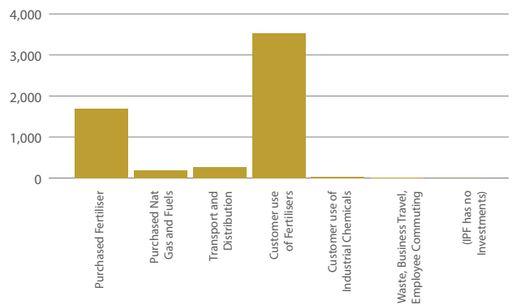
IPL Scope 3 by Business (kt CO_2e)



Dyno Nobel 2020 Scope 3 Baseline (kt CO_2e)



IPF Scope 3 2020 Baseline (kt CO_2e)



Scope 3 sources and reduction strategies

Our ability to set quantified, time-bound reduction targets for our scope 3 emissions depends on their source (i.e., where they arise in our value chain), the development of the technologies required to reduce them, the policy settings required to incentivise the adoption of these technologies, and in some cases, the development of recognised methodologies to measure the reductions.

Our scope 3 GHG sources throughout the value chain are presented on the following pages for each of our businesses, along with the management strategy for each source.

1. The divestment of Waggaman remains subject to US anti-trust regulatory clearance and the completion of other customary closing conditions. Under the terms of the sale agreement, these conditions must be satisfied within 24 months of execution of the agreement.

Dyno Nobel value chain scope 3 and reduction strategies

CATEGORY 1
PURCHASED GOODS: 1,469 kt CO_2e

Strategy: Source explosives from low GHG manufacturers: WALA sale and offtake agreement will lower scope 3.

Next steps: Engage with suppliers to replace average cradle-to-gate Life Cycle Assessment (LCA) emission factors (EFs) with supplier-specific EFs and determine supplier decarbonisation plans.

Key enablers: The adoption of low GHG technologies, including green hydrogen, CCS and alternative feedstocks, by our suppliers will be required to reduce this source of scope 3.

CATEGORY 3
FUEL AND ENERGY: 473 kt CO_2e

Strategy: Transition away from natural gas, petrol and diesel fuels, which have upstream scope 3 associated with their extraction, processing and transport to us. Switch to renewable electricity to eliminate upstream scope 3 from the extraction and processing of fossil fuels for power plants.

Next steps: Progress our green ammonia projects to reduce natural gas purchases. Switch to renewable electricity and EVs as they become available.

Key enablers: Grid decarbonisation, PPAs, EVs (including heavy vehicle fleet for Dyno Nobel Transport International).

CATEGORY 4
TRANSPORTATION: 141 kt CO_2e

Strategy: Continuing to reduce our shipping GHG by selecting more efficient ships and decarbonised vessels through Rightship, working with road transport suppliers to reduce distances travelled and switching to EV powered contractor fleets as they become available.

Next steps: Engaging with transport contractors to obtain their specific emission factors and decarbonisation plans.

Key enablers: Electrification of contractor road and rail transport. LNG and green ammonia fuels for shipping.

CATEGORY 5, 6, 7
WASTE, BUSINESS TRAVEL AND EMPLOYEE COMMUTING: 9 kt CO_2e

Strategy: Continue to reduce, reuse, recycle waste, and to promote EV novated leases to employees.

Key enablers: Incentives for EV adoption.

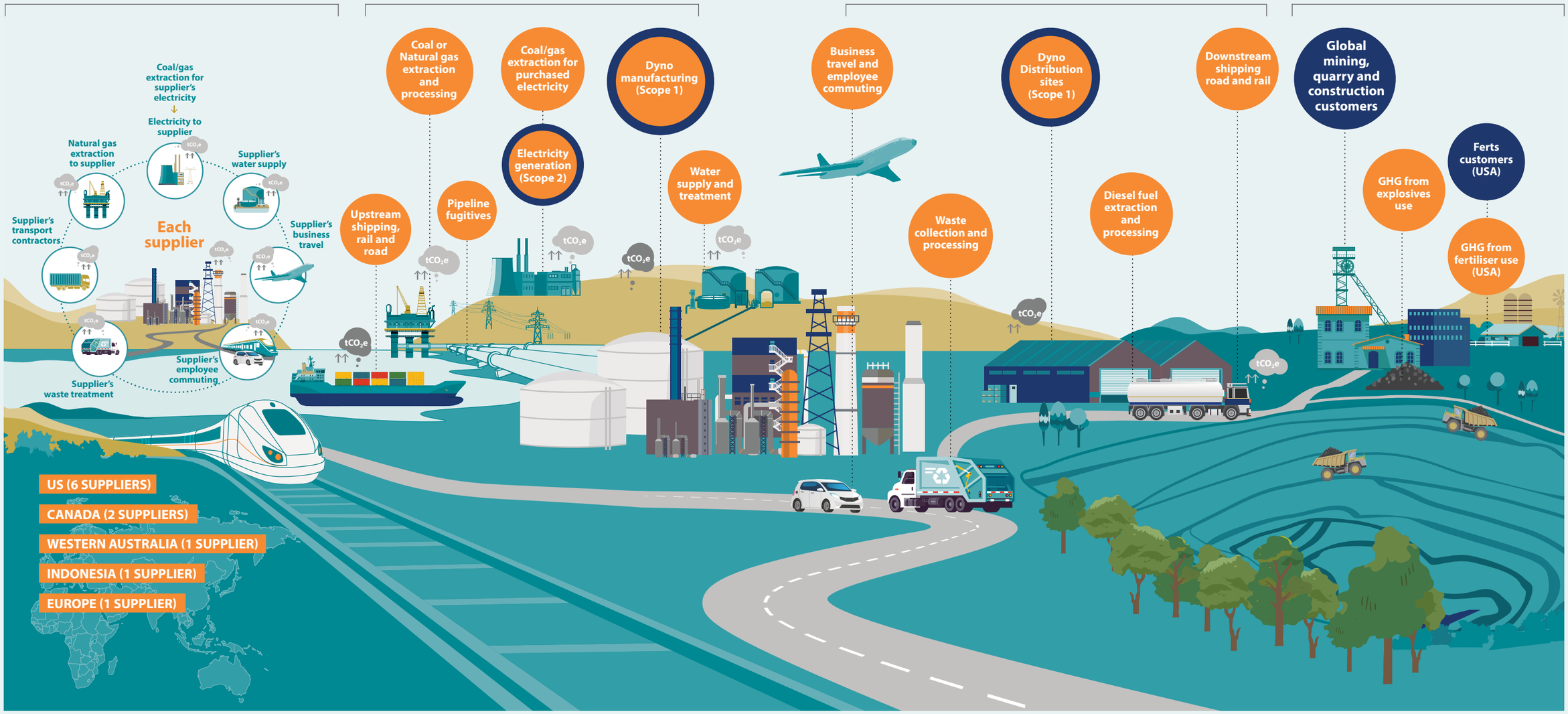
CATEGORY 11
USE OF SOLD PRODUCTS: 2,085 kt CO_2e

Strategy: Our DeltaE explosives technology can be used in hard rock applications and is estimated to reduce CO_2e emissions in a typical blast by between 5% and 30%. A recent trial conducted in partnership with a mining customer achieved a 7% reduction, with a 25% reduction calculated against standard ANFO explosives, had they been used in the pre-trial period.

Next steps: Expanding our customer use of DeltaE. Completing build of our prototype electric MPU and solar charging station – see the Case Studies on page 30. Investigate EEF potential for US-based fertiliser customers.

CATEGORY 15
INVESTMENTS: 110 kt CO_2e

Strategy: Share our knowledge in developing green ammonia and N_2O abatement projects with our GHG intensive JV partners.



Incitec Pivot Fertilisers value chain scope 3 and reduction strategies

CATEGORY 1
PURCHASED GOODS: 1,683 kt CO_2e

Strategy: Source fertilisers from low GHG manufacturers.

Next steps: Engage with suppliers to replace average cradle-to-gate LCA EFs with supplier-specific EFs and determine supplier decarbonisation plans.

Key enablers: The adoption of low GHG technologies, including green hydrogen, CCS and alternative feedstocks, by our suppliers. We are proud to be demonstrating progress at our own facility at Gibson Island in Australia.

CATEGORY 3
FUEL AND ENERGY: 184 kt CO_2e

Strategy: Transition away from natural gas, petrol and diesel fuels, which have upstream scope 3 associated with their extraction, processing and transport to us. Switch to renewable electricity to eliminate upstream scope 3 from the extraction and processing of fossil fuels for power plants.

Next steps: Progress our green ammonia projects. Switch to renewable electricity and EVs as they become available.

Key enablers: Grid decarbonisation, Copper String (northern Queensland), PPAs, EVs (excavators, front end loaders).

CATEGORY 4
TRANSPORTATION: 272 kt CO_2e

Strategy: Continuing to reduce our shipping GHG by selecting more efficient ships and decarbonised vessels through Rightship, working with road transport suppliers to reduce distances travelled and switching to EV powered contractor fleets as they become available.

Next steps: Engaging with transport contractors to obtain their specific emission factors and decarbonisation plans.

Key enablers: Electrification of contractor road and rail transport. LNG and green ammonia fuels for shipping.

CATEGORY 5, 6, 7
WASTE, BUSINESS TRAVEL AND EMPLOYEE COMMUTING: 2 kt CO_2e

Strategy: Continue to reduce, reuse, recycle waste and promote EV novated leases to employees.

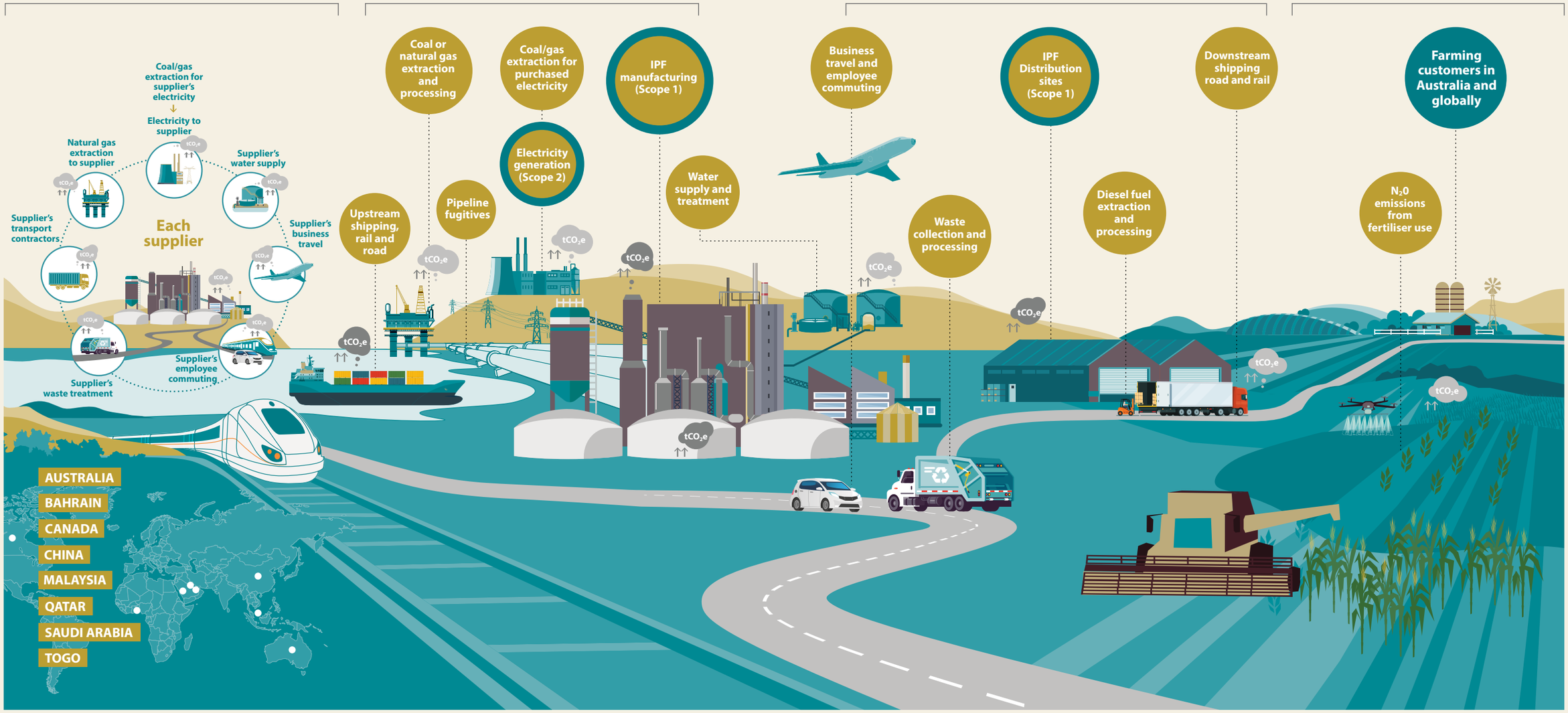
Key enablers: Incentives for EV adoption.

CATEGORY 11
USE OF SOLD PRODUCTS: 3,532 kt CO_2e

Strategy: Enhanced Efficiency Fertilisers (EEFs) and promotion of the sustainable application of fertilisers. See the case study on the following page.

Next steps: Increase sales of EEFs. Continue research and collaboration for a recognised methodology to quantify the reductions associated with EEF use.

Key enablers: Incentives for farmers to adopt EEFs.



CASE STUDIES

Reducing the impacts of blasting with DeltaE

Our technology strategy is focused on working in partnership with our customers and innovating in ways that help them achieve their goals. To do this, we focus on delivering explosives products and services that:

- Improve the safety of mining and quarry operations;
- Increase our customers' sustainability through reducing environmental and social impacts; and
- Increase customer productivity and efficiency.

Differential Energy (DeltaE) is a proprietary explosives method which allows blasters to accurately vary the density of chemically gassed emulsion as it is being loaded into the blast hole, enabling the operator to load multiple densities of gassed emulsion throughout the same hole in order to match the unique geological characteristics present in the ground. Because the explosives energy is precisely targeted to match the rock properties, the energy loaded into the blast hole will match only what is required for an optimal blast, reducing total energy and therefore vertical movement at the surface, air overpressure and noise from the blast event. The formulation also contains a biofuel, further reducing GHG.

The use of DeltaE continues to result in reduced NOx emissions, reduced energy use and GHG, less dust, noise and ground vibration and increased productivity while reducing overall costs for our mining customers.

Designing and building the first electric MPU for our mining customers

Mobile Processing Units (MPUs) are used in mining operations across Australia to manufacture or blend bulk explosives at customer blast holes. Given Dyno Nobel's technology strategy is focused on safety, sustainability and productivity, this is not only applied to our products, but also to optimise their delivery.

Our DYNOBULK Flex MPU was released this year. Due to its larger carrying capacity and dual-purpose bins, miners need fewer trips to carry product to the blast hole. The Flex has three bins, compared to two in a standard MPU. One of these bins is for ammonium nitrate. Operators can choose to use the other two bins in a way that suits the mine's needs – either for more ammonium nitrate or, alternatively, for TITAN emulsion.

The lower number of turnarounds needed to achieve the same volumes of explosives loading not only reduces diesel fuel use, but also provides an additional safety benefit, as the user's interaction with heavy mining equipment is also reduced.

The DYNOBULK Flex MPU also minimises the assets and time traditionally needed to load a blast, further improving the safety of a site, with fewer trips between storage and bench.

The next step was to design and build our very first electric MPU, complete with its own solar charging station. Designed last year, the prototype electric (eMPU) chassis was assembled this year and is designed to carry DeltaE.

It has a 350kWh battery onboard, and is recharged using a 650kWh battery charging station which can draw power from solar and wind generation at the customer mine site. Power is optimised by regenerative braking, which uses the onboard motor as a generator as the fully loaded truck descends to the mine and uses the brakes, with just a 45 minute recharge time. Once the explosive product is loaded from truck to boreholes, the truck is lighter and uses less power to return uphill for reloading.

After road testing, the eMPU will have the chemical processing unit fitted to the back and will be ready for delivery and use. As per our other MPUs, the eMPU's explosives delivery function is controlled by our Universal Control System and can automatically collect and display loading data into our Nobel Fire App.

We are proud to be delivering our first electric MPU as part of helping our customers to decarbonise their mining operations.

Greenhouse Gas Reduction Assurance on DeltaE customer trial

During the 2022 calendar year, data was collected at a customer mine site following a switch from a standard bulk product (T5060) to using DeltaE. Data collected from 1 January to 31 December 2022, along with data from the 12-month period before the switch was initiated, allowed us to quantify and independently assure the GHG reduction associated with the use of DeltaE at this site, in comparison with the T5060 product that had previously been used.

The data showing the use of T5060 during the 12 months before the switch was initiated was used to inform the calculation of GHG emissions had the switch to Delta E not been made, thereby establishing a baseline.

The emissions for Delta E were 810 tCO_2e and would have been 873 tCO_2e had T5060 continued to be used. This is a reduction of 63 tCO_2e which has been subject to **Limited Assurance.** This is a reduction of 7%. See our calculations explained **here.**

(Note: The GHG reduction was expected to be 25% as calculated by Dyno Nobel using the standard formulation of ANFO for the 12 months prior to the switch to DeltaE. However, it was discovered that 50% less diesel than the standard ANFO blend had been used for the 12 months prior to the use of DeltaE at this site, which reduced the baseline GHG. Had the standard ANFO blend been used in the period before the switch to DeltaE, the reduction in GHG would have been 25%. See our calculations explained **here.**

Reducing customer GHG as N_2O from nitrogen fertilisers

Climate change presents all businesses with significant challenges. For our farming customers, these include finding ways to feed a growing population by increasing yields of food and fibre on less cleared land while reducing GHG emissions and nutrient losses to waterways.

After applying nitrogen fertilisers, some of the nutrients can be lost from the soil under high moisture conditions where bacteria use nitrate nitrogen as an oxygen source. This process is termed denitrification and can produce N_2O, a greenhouse gas (GHG). Aside from contributing to global warming, denitrification also means that crops and pastures lose valuable nitrogen, potentially impacting farm production and quality.

IPF has developed a range of Enhanced Efficiency Fertilisers (EEFs) which keep nitrogen (N) in a stable form for longer, maximising N uptake by crops and reducing losses to the air as GHG and to waterways through leaching. We also promote soils testing to support precision application of nutrients, so that only what is needed to maximise each crop is applied.

Soils Testing and Precision Agriculture: Applying only what is needed at the right time, and in the right place

Soil health starts with building a strong base of soil, crop and nutrient knowledge. IPF's Nutrient Advantage Laboratory has been widely regarded as one of Australia's leading nutrient testing laboratories for over 60 years and has a broad range of National Association of Testing Authorities (NATA) accredited nutrient tests available.

Precision agriculture allows growers to grow more while using less fertiliser, and soil testing is the key – soil sampling allows productivity differences within a field to be considered and a variable rate application designed for optimising seeding and fertiliser applications. Less fertiliser application means less GHG emissions and less nutrient losses to waterways.

Nitrification inhibitor usage slashes on-farm GHG emissions

During 2023, new research has continued to demonstrate the ability for grain growers, graziers and horticulturalists to reduce GHG from fertilisers using EEFs. One project studied the impacts of using a combination of eNpower®, a proprietary nitrification inhibitor formulation containing dimethyl pyrazole glycolate (DMP-G) and EasyN®, a urea ammonium nitrate solution.

Results showed N_2O equivalent GHG emissions (kg/ha) more than halved over 36 days as a result of applying eNpower on EasyN applied soil, compared to just using EasyN.

IPF Vice President, Agronomy and Innovation, Charlie Walker said IPF was at the frontier of helping farmers to minimise GHG emissions through good agronomy and Enhanced Efficiency Fertiliser (EEF) technology, and research into DMP-G was just one aspect of this work.

"DMP-G works by inhibiting nitrifying bacteria in the soil, slowing down the conversion of ammonium N to nitrate which is more prone to losses like denitrification and leaching," Mr Walker said.

"Where nitrogen losses are minimised, there is the potential for growers to have a positive return on investment on the use of inhibitors such as DMP-G.

"Alternatively, growers may be able to reduce nitrogen inputs under some circumstances."

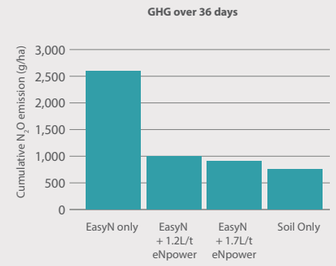
"eNpower is commercially available now and we are optimistic that we will have more technology in the future that will help growers reduce their GHG footprint.

"IPF is continuing to invest in research to drive productivity and environmental outcomes for growers. **The ARC Research Hub for Smart Fertilisers** is a key investment to address the environmental and economic challenges created by the inefficiencies of traditional N fertilisers."

Several other field trials in 2023 also showed substantial reductions in GHG with the use of inhibitors. In partnership with Latrobe University, we tested a blend of organo-mineral fertilisers applied to celery crops. The use of organo-mineral products and DMPP treated synthetic fertiliser reduced N_2O emissions by between 55% and 82% compared with the standard practice of applying chicken manure and inorganic fertiliser during the cropping cycle.

A separate trial aimed to quantify the effect of our Trigger humic acid granule when applied with NPKS fertiliser at a cabbage field in Bacchus Marsh. GHG emissions were sampled at pre-determined intervals using static chambers and analysed, with the results showing significant reductions in GHG with the use of Trigger.

EasyN + eNpower®



Treatments	% reduction in GHG
EasyN only	0%
EasyN + 1.2L/t eNpower	41%
EasyN + 1.7L/t eNpower	64%

4. Managing strategic business risks and opportunities

The IPL Board recognises that climate-related risks and opportunities need to be identified and managed in the same way as any other strategic risk or opportunity.

The IPL Group Risk Policy and Risk Management Framework ensures that risk is managed within a comprehensive risk management process which is consistent with the Australian/New Zealand Standard for Risk Management (AS/NZS ISO 31000:2018).

A key element of this risk management process is the Board's risk appetite, which is based on the level of risk IPL is prepared to sustain in achieving the corporate objective of delivering value to shareholders. Risks are identified, analysed and prioritised using common methodologies and risk controls are designed and implemented having regard to the overall corporate strategy.

The IPL Risk Management Framework requires the identification and management of risks to be embedded in business activities through the following processes:

Risk identification

New and emerging risks are identified and each is assigned an owner, or accountable individual, in the part of the business where the risk occurs.

Risk assessments

Risks are assessed with the most appropriate technique to determine their potential consequences and likelihood, prioritise them and inform risk treatment options.

Risk categories and ratings

Risks (including climate-related risks) are examined against consequence categories including Health and Safety, Environmental, Reputational and Financial impacts and rated using a 6 point scale, with 5-6 rating risks being material.

Risk treatment

Controls are implemented to prevent, reduce or mitigate downside risks and increase the likelihood of opportunities being realised.

Monitoring and reviewing

Risks and controls are reviewed annually to evaluate performance.

Our scenarios

IPL's integrated risk assessment process makes use of IPL-specific future climate-related scenarios which are updated every three years, as mandated by the charter of the Audit and Risk Management Committee of the Board. An expert third party is engaged to update the scenarios using the most recently available climate-related information including Assessment Reports and Representative Concentration Pathways (RCPs) from the Intergovernmental Panel on Climate Change, New Energy Outlooks from BloombergNEF and Shared Socioeconomic Pathways (SSP), along with a range of scientific and consultancy papers relevant to our businesses and geographical locations (see Appendix 1).

In addition to updating the scenarios, the expert third party also conducts a comprehensive assessment of IPL's physical and transitional (market-based) risks and opportunities associated with climate change.

The most recent scenario update and comprehensive external risk and opportunity assessment was conducted in 2021 using four scenarios that align with the TCFD five principles of plausible, distinctive, consistent, relevant and challenging. They each describe how physical climate change and efforts to reduce emissions would impact on areas including carbon pricing and carbon market development; the overall economy; the development of technology; people's consumption patterns and social structures; the physical environment and localised weather patterns; energy and power; agriculture and land use; mining and industry; infrastructure; and transport.

The existing risks and opportunities for IPL were then re-assessed against these scenarios through a comprehensive assessment process including interviews, workshops and validation sessions across our global business.

Our scenarios are described on the following pages. They are not predictions, but are descriptions of potential future scenarios associated with each degree of warming, using the most recently available information. For example:

- The 1.5°C Fast Action and 2°C Required Action scenarios describe the policies, energy transitions and technology shifts that would be required to limit global temperature increases to 1.5°C and 2°C respectively, as well as the physical impacts that would occur with these degrees of warming;
- The Delayed Action Scenario (Inevitable Policy Response Scenario) describes a future in which there is an initial period of inaction, leading to severe physical impacts, followed by rapid government action to mitigate these physical impacts. This delayed response would require an abrupt and disorderly transition to low carbon practices, resulting in rapid and unprecedented changes to the economy; and
- Finally, the 3°C+ Current Trajectory Scenario describes a future in which the current business-as-usual policies continue with limited further action. This leads to significant global warming and increased exposure to extreme acute and chronic physical risks.

Rapid, far-reaching and unprecedented transition across all sectors of the economy is required to limit global warming to 1.5°C. International cooperation is essential to achieve prompt decarbonisation.

The changes required to avoid more than 1.5 degrees of warming (when the world is already 1 degree above pre-industrial levels) are extreme. Rapid, far-reaching and unprecedented transitions would occur in energy, land, food, urban, infrastructure, transport, buildings and industrial systems.

The widespread adoption of new and disruptive technologies and enhanced climate-driven innovation are required to avoid more than 1.5 degrees of warming, including Carbon Capture and Storage (CCS). Significant economic incentives for companies to invest rapidly and at scale assist decarbonisation efforts in this scenario.

Implications for IPL

Because the 1.5°C Fast Action scenario assumes rapid global action is taken, physical risks are not as severe. The material financial risks identified are associated with the rapid transitioning of the economy and include policy and legal risks, including carbon pricing, and market risks such as reduced demand for explosives due to thermal coal decline, and later, metallurgical (MET) coal. Reputational risks may arise if IPL were not to report transparently on its efforts to manage the rapid transition.

Opportunities include increased demand for low carbon products and services as well as business opportunities associated with the development of green hydrogen for energy use.

A global carbon price is rapidly introduced. By 2030, the global price on carbon is ~US$300/t CO_2 and by 2040 is ~US$550/t CO_2 [A10]

Deforestation is halted by around 2030, while rapid global reforestation occurs simultaneously. Food waste is increasingly reduced and new, low GHG cultivation methods are adopted[A2]

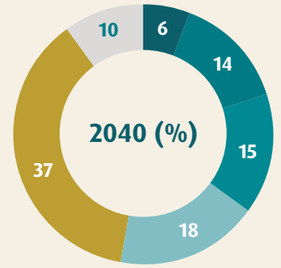
Global net anthropogenic CO_2 emissions decline by about 45% from 2010 levels by 2030, reaching Net Zero by 2050[A1]

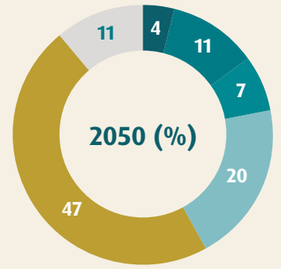
Coal-fired electricity generation will decrease by nearly 80% by 2030 and will be reduced to close to zero percent of electricity by 2050[A9]

Significantly increased demand and use of sustainably sourced bioenergy – e.g. biokerosene, biogas, biodiesel. This requires the deployment of large-scale bioenergy cropland[D2]

CO_2 emissions from industry are 65-90% lower in 2050 relative to 2010. This is achieved through existing and new technologies including electrification, renewable hydrogen, CCS and CCU[A1]

Global Primary Energy[A9]





Coal
Gas
Oil
Bioenergy
Renewables
Nuclear

Global Primary Energy Mix

- In this scenario, the global energy mix experiences a fast but measured decline in fossil fuel use. No new coal or gas power stations are built from 2022.
- Gas is still utilised in non-energy goods in the US, however where possible CCUS technology is applied. Hydrogen replaces gas for industry in Australia.(A11)
- By 2050 renewables supply 80% of electricity: gas with CCS makes up 8%, coal accounts for less than 1% by 2050.[A11]

Globally coordinated, government-led rapid deployment of climate policy where the worst physical impacts of climate change are avoided.

This scenario involves a high degree of government 'penalty-led' regulation. Significant investment is deployed to transition to a decarbonised economy, including renewable energy and storage, energy efficiency and CCS. Global primary energy will lean heavily on renewables, bioenergy and nuclear. Oil demand peaks by 2028.

As industries decarbonise, major shifts in commodity demand are experienced. All industries face increasing pressure from government, investors and society to reduce emissions, with stakeholders pulling away from capital investments in high emissions industries which refuse to abate.

Implications for IPL

This scenario also assumes rapid global action is taken to reduce emissions, but describes greater physical impacts associated with a greater degree of global warming. Risks include supply chain disruptions due to more extreme weather events. Carbon pricing and reduced demand for explosives in the coal sectors have potential to be financially material, although the transition occurs more slowly.

Opportunities for IPL are associated with the transition: increased demand for low carbon products and services and the development of green hydrogen for energy use.

Emissions are projected to decline by 25% from 2018 levels by 2030 and reach Net Zero by 2070[B2]

In OECD countries, the use of coal and oil as primary energy sources decreases steadily from now. Gas for energy increases to 2040, after which it falls[B2]

Globally, crop demand for energy sources doubles before 2030[B17]

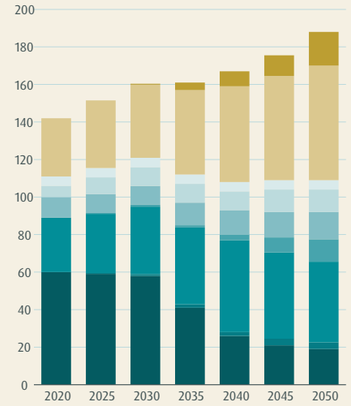
A global carbon price is implemented rapidly, reaching US$32.7/ tonne in 2030, increasing to US$71.8/ tonne in 2040 and US$100/ tonne in 2050. The carbon price peaks in 2080 before dropping[B2]

Global food production increases from now until 2050. The agriculture, forestry and land use sector shifts from net positive to net negative GHG emissions. This drop is due to changing practices, including increasing forest cover[B17]

CCS is especially applicable in the chemicals industry, delivering 14 billion tonnes of abatement to 2060[B5]

Total global population peaks at 8.5 billion in 2050, before declining. By 2070, global population has dropped to 8.2 billion[B17]

Industry Energy Mix, EJ per year[B10]



Source: Vivid Economics and Energy Transition Advisors, The Inevitable Policy Response: Forecast Policy Scenario (2019)

- Coal (unabated)
- Coal CCS
- Gas (unabated)
- Gas (CCS)
- Oil
- Biomass
- Heat
- Electricity
- Hydrogen

Global Primary Energy Mix

- In this scenario, global primary energy will lean heavily on renewables, bioenergy and nuclear (see chart). This leads to peak oil demand by 2028.[B10]
- Electrification will result in increasing demand for electricity globally while reducing emissions.[B10] By 2050, electricity will provide 45% of final energy (up from 20% in 2020).
- Hydrogen will provide 25% of final energy by 2050, with oil and gas supplying energy to only those industries where electricity and hydrogen are not viable substitutes (e.g. aviation, select industrial processes).[B10]

Delayed government action leads to significant climate impacts followed by a forced policy response that will be abrupt and disorderly, causing rapid and unprecedented changes to the economy.

In this scenario, delayed action results in severe physical impacts. Rapid action is then taken between 2025 and 2030, causing substantial shifts in global investment needs, driving down demand for assets that increase emissions, and driving up demand for assets that avoid or reduce them.

Policy impacts include carbon border taxes, carbon pricing with high prices after 2030, methane and nitrous oxide emissions taxes or cap-and-trade systems, subsidies for low-emissions agricultural practices and technologies, and farmer education and technical assistance programs.[C1] Industry will be forced to decarbonise.

Implications for IPL

The Delayed Action (DA) scenario describes serious physical impacts followed by a forced policy response, causing rapid, disorderly and unprecedented changes to the economy. Transitional risks include localised carbon pricing schemes causing competition risks, market risks associated with a less orderly transition and, potentially, stranded assets and loss of revenue if this transition were not managed in advance. Physical risks include increased hurricanes, storms and floods, periods of drought and water shortages, which could impact on IPL's operations, supply chains and customers, and an increased risk of inundation at some coastal sites.

Global GHG emissions continue on current trajectories until 2030. Between 2030 and 2050 there is a rapid decline in global emissions[C1]

The US, Canada and Australia will have comprehensive mitigation policies in place by 2025 to reduce emissions from agriculture. Major tropical forest countries will end deforestation by 2030[C1]

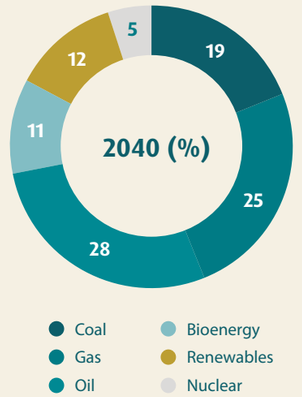
All major economies will have carbon pricing schemes covering emissions in power and industry by 2030. Policy ambition and backstop signal prices of US$60-85 by 2030 in leading countries[C2]

Early coal phase-out for first mover countries by 2030. Steady retirement of coal-fired power generation after 2030 in lagging countries, with no thermal coal use by 2040. Bioenergy crops play a significant role in the transport sector[C3]

Countries with ambitious Net Zero targets end the installation of new unabated (no CCS) fossil-based industrial plants by 2040[C3]

By 2050, hydrogen contributes at least 20% of energy and feedstock demand in hard-to-abate sectors, such as iron and steel, non-metallic minerals and chemicals[C3]

Global Primary Energy[C2]



Global Primary Energy Mix

- In this scenario, coal maintains a 20% share of primary energy, with oil and gas holding 25% each to 2030.[C3]
- From 2030 to 2050, this mix rapidly shifts to align with a 1.5oC scenario. Coal-fired generation decreases to 4% with CCS on any remaining, oil falls to 7% of the energy market share, and renewables make up almost 50%.[C3]
- For industry, by 2050, coal provides 10% of energy, natural gas provides 20%, electricity provides 25%, and hydrogen provides 10%.[C3]

Business as usual, with limited climate regulation and a growing global population leads to devastating physical impacts and a decline in economic growth.

This scenario describes a future resulting from current, business-as-usual policies which lead to significant global warming and increased exposure to extreme physical risks. Because less policy action is taken, transition risks are not as prevalent. However, substantial physical impacts over the medium to long term are socially and economically devastating.

Physical impacts from extreme weather events lead to business disruption, damage to property and infrastructure, and significant impacts to global supply chains. Increased temperatures, sea level rise and precipitation affect labour, capital and agricultural productivity, and cause operational and raw material disruptions to key industries. Geopolitical conflict results.

Implications for IPL

The limited climate regulations described in this scenario mean the transitional risks for IPL associated with market shifts and carbon pricing are limited to those which IPL is currently managing, including a shrinking thermal coal explosives market in the US and small regional carbon pricing schemes.

Because carbon emissions continue to rise in this scenario, the material risks identified for IPL are associated with chronic physical risks (e.g. creeping changes in climate which cause drought and sea level rise) and acute physical risks (e.g. more severe and more frequent extreme weather events such as hurricanes, drought and flooding from intense rain events and storm surges) which impact on IPL's operations, supply chain logistics and customers.

A global carbon price is negligible, if it emerges at all. Carbon pricing is applied only in some geographies[D1], [D2]

Wind and solar will develop to match global gas capacity before 2025. Renewables accounted for 90% of new electricity generating capacity added globally in 2020 and this trend is expected to continue[D12]

By 2030, there is a global 100% increase in the frequency of extreme heat events over land and by 2040 severe weather systems become significantly more intense[D5]

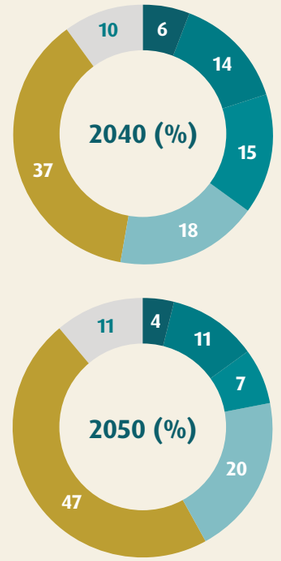
Water stress begins to impact cities and industrial processes and sectors which rely on water, yet operate in scarce environments[D5]

Carbon emissions do not peak globally until around 2050. Lack of action results in an estimated median temperature rise of over 2°C by 2050 and close to 4°C by 2100[D1]

Physical impacts cause massive disruptions to global supply chains and economies[D9]

Extreme weather combined with sea level rise will damage industry and infrastructure located near coastlines[D5]

Global Primary Energy[D12]



Global Primary Energy Mix

- In this scenario, current trends in renewable electricity generation uptake continue, however fossil fuels remain the dominant source of primary energy.[D12]
- In the US, from 2022 to 2050 there are no new coal generation plants established and almost half of current generators retiring. US natural gas production and consumption grows, increasing by 25% from 2025 to 2050.[D13]
- In Australia, trade in LNG continues to grow and increased competition causes governments to reconsider possible shortfalls in supply.[D13]

Valuing our portfolio under different scenarios

As a manufacturer and distributor of ammonia-based explosives and fertilisers for the mining, quarry and construction and agriculture industries, we manufacture and supply products and services which will continue to be in demand throughout the transition and into the future. Our transition pathway is therefore focused on the successful decarbonisation of our manufacturing and distribution assets so we can continue to provide our products and services in a decarbonised economy. For these reasons, the risk of stranded assets and impacts on portfolio values are greatly reduced for our businesses compared to those in some other industries.

While we have not yet quantified our portfolio under different future scenarios, a discussion of the potential impacts on asset values under each scenario is provided below. As described in the previous section, it should be kept in mind that these scenarios are not predictions but are descriptions of potential future scenarios associated with each degree of warming, using the most recently available information.

1.5°C Fast Action scenario

This scenario describes the policies, energy transitions and technology shifts that would be required to limit global temperature increases to 1.5°C. In this scenario, rapid decarbonisation of IPL's manufacturing assets would be enabled through significant economic incentives. Opportunities would include increased demand for low carbon products and services, as well as business growth associated with the development of green hydrogen, in the more transportable chemical form of ammonia, for energy use. Under this scenario, our Net Zero Pathway as described in Section 2 would be accelerated and our portfolio values would likely be retained, with decarbonised assets potentially increasing in value as the demand for green ammonia increased.

A high price on carbon emissions would need to be implemented globally, and coal-fired electricity generation would need to decrease by nearly 80% by 2030, to keep warming below 1.5°C[A9]. While a global carbon price would mean IPL would not be disadvantaged in comparison to competitors and could pass this cost on to customers, the rapid transition away from thermal coal would mean that our Cheyenne site may need to transition very quickly to the manufacture of Diesel Exhaust Fluid (DEF) and/or fertiliser to maintain its value.

2°C Required Action scenarios

This scenario also assumes rapid global action is taken to reduce GHG emissions, but describes greater physical impacts associated with a greater degree of global warming. Risks include supply chain disruptions due to more extreme weather events and regional carbon pricing which may create competition risks. Reduced demand for explosives in the coal sectors has potential to be financially material, although the transition occurs more slowly, giving time for the Cheyenne site to transition to the manufacture of other products.

As in all scenarios, the products we manufacture and supply continue to be in demand throughout the transition and into the future, and there are increased opportunities associated with green hydrogen as ammonia for energy use. The resulting opportunities to decarbonise are likely to mean the direct impacts of regional carbon pricing will be reduced and portfolio values will be maintained, however there is greater need to manage these risks than in the 1.5°C scenario.

Delayed Action Scenario (Inevitable Policy Response Scenario)

This scenario describes an initial period of inaction, leading to severe physical impacts, followed by rapid government action to mitigate these physical impacts. This delayed response would require an abrupt and disorderly transition to low carbon practices, resulting in rapid and unprecedented changes to the economy. Transitional risks in this scenario include localised carbon pricing schemes causing competition risks, market risks associated with a less orderly transition and, potentially, stranded assets and loss of revenue if this transition were not managed in advance.

As described in Section 2, IPL's Net Zero Pathway includes decarbonisation plans for each of its assets which seek to transition them and maintain their viability. Under this scenario, the key enablers which may support these, such as incentives and technology development, come late and very quickly. While there will continue to be global demand for our products and services throughout this transition, this scenario presents the greatest risk to several of our manufacturing assets associated with a late and rapid transition away from thermal, and potentially metallurgical, coal mining in the Cheyenne and Moranbah local regions.

However, current plans for the Cheyenne site to expand into the manufacture of DEF in the short term, and to green ammonia in the medium to long term, provide opportunities to maintain asset value as thermal coal markets decline, and the location of the Moranbah site close to very high-quality MET coal means that this site would also likely maintain its viability in the medium to long term under this scenario.

While the physical impacts of climate change are expected to increase in this scenario, impacting supply chains, IPL's assets themselves are considered to be resilient to these risks – see Section 4 for a detailed discussion of physical risks and mitigation strategies.

3°C+ Current Trajectory Scenario

This scenario describes a future in which the 2021 business-as-usual policies continue with limited further action. This leads to significant global warming and increased exposure to extreme acute and chronic physical risks. The limited climate regulation described in this scenario means the transitional risks for IPL associated with market shifts and carbon pricing are limited to those which IPL was managing in 2021, including a shrinking thermal coal explosives market in the US and small regional carbon pricing schemes.

While decarbonisation policies have advanced in many countries since our 2021 scenario update, including in Australia and the US, the substantial physical impacts described over the medium to long term in this scenario are socially and economically devastating. Socio-economic downturn/disruption leads to supply chain interruptions and reduced product demand. While IPL's manufacturing plants and distribution businesses are located primarily in wealthy countries with good governance which may be more resilient than most, the long-term future described in this 3°C+ scenario would not be conducive to operating a business regionally and/or globally, and the asset values for almost all companies would be impacted.

For a detailed discussion of the risks and opportunities for each of our businesses, see pages 45-56.

Risks and opportunities

This section summarises the risks and opportunities for IPL, and for each of its businesses, as assessed against the bespoke 1.5°C Rapid Action, 2°C Required Action, Delayed Action (IPR) and 3°C+ Current Trajectory scenarios developed for IPL as described in the previous section. Therefore, the descriptions of risks, opportunities and resilience are not forecasts, but describe what could happen if the world's development progressed as described in each of these scenarios.

Global temperature records show that we have already surpassed a global average temperature increase of 1°C above pre-industrial average temperatures, indicating that there is an appreciable prospect that the world will experience more than 2 degrees of warming. However, the transitional risks identified through the use of the 1.5°C and 2°C scenarios could still occur because nations may still introduce rapid market, technological and regulatory changes, regardless of the actual degree of warming, to try to reduce emissions as quickly as possible.

The climate-related risks and opportunities specific to IPL's businesses that were assessed during our most recent scenario analyses are summarised on the following page. Each risk or opportunity is categorised according to the TCFD definitions (shown below the table) and as they relate to IPL's value chain.

Also included are the relevant climate scenarios and the estimated timeframes they describe for the impact of the risk or opportunity. Where impacts are already being realised, these are described as 'Current'.

Following the summary table, risks and opportunities for each of our businesses are presented. These more detailed tables include a description of the risk or opportunity, the strategic approach our businesses are taking to maximise the opportunity or mitigate the risk, a residual risk assessment and the KPIs being monitored to assess progress.

CURRENT

RISK
Loss of revenues due to decreased demand for thermal coal mining
Transitional: Market
1.5° 2° DA

OPPORTUNITY/ RISK
Increased demand for new world minerals & reduced demand for base metals
Transitional: Market
1.5° 2°

RISK
Physical impact of severe weather events on supply chain logistics
Physical: Acute risk
1.5° 2° DA 3°

SHORT TERM <1-3 YEARS

RISK
Regional carbon pricing schemes create a competition risk
Transitional: Legal & policy
2° DA 3°

RISK
High baseline water stress may lead to water shortages at some IPL operations
Physical: Chronic
1.5° 2° DA 3°

RISK
Reputational risk impacts access to capital and investors
Transitional: Market & reputation
1.5° 2°

RISK
Physical impact of severe weather events on operations & personnel
Physical: Acute risk
1.5° 2° DA 3°

MEDIUM TERM <3-6 YEARS

OPPORTUNITY
Development of green ammonia and renewable hydrogen market
Transitional: Market & technology
1.5° 2°

OPPORTUNITY
Increased demand for specialist fertilisers due to harsher growing conditions
Physical: Chronic
DA 3°

OPPORTUNITY
Partnerships for soil carbon sequestration in agriculture sector
Transitional: Market & policy opportunity
1.5° 2°

OPPORTUNITY
Demand for low GHG emitting fertilisers and explosives
Transitional: Market & policy opportunity
1.5° 2°

LONG TERM 6+ YEARS

OPPORTUNITY
Growth in Quarry & Construction sector to rebuild infrastructure due to physical impacts
Transitional: Market
DA 3°

OPPORTUNITY/ RISK
Shifting growing regions leads to fertiliser demand shifts
Physical: Chronic
1.5° 2°

RISK
Stranded asset or long-term contract risk due to late sudden transition
Transitional: Market
DA

RISK
Socio-economic downturn/ disruption leads to supply chain interruptions & reduced product demand
Physical: Acute & chronic
3°

CLIMATE SCENARIOS
1.5° Fast Action
2° Required Action
DA Delayed Action (IPR)
3° Current Trajectory

TCFD DEFINITIONS

The TCFD divided climate-related risks into two major categories:

1. Risks related to the transition to lower-carbon economy; and
2. Risks related to the physical impacts of climate change.

Transitional risks

Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, reputation and market changes to address mitigation and adaptation requirements related to climate change.

Physical risks

Physical risks resulting from climate change can be acute or longer-term (chronic) in climate patterns.

Acute Risks: Acute physical risks refer to those that are event-driven, including increased severity of extreme weather events, such as cyclones, hurricanes or floods.

Chronic Risks: Chronic physical risks refer to longer-term shifts in climate patterns, e.g. sustained higher temperatures and changes to rainfall patterns which may cause heat waves, sea level rise and/or increasing periods of drought.

Risks and opportunities for Dyno Nobel

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
CURRENT		
RISK 1 **Loss of revenues due to decreased demand for thermal coal mining** **Transitional: Market Risk** **Climate Scenarios** 1.5° 2° DA **Impact** LOW **MEDIUM** HIGH Decline in demand firstly for thermal coal, then also metallurgical coal is described in both the 1.5°C and 2°C Fast and Required Action scenarios. This would reduce demand for bulk explosives across thermal coal in the short term and MET coal in the long term. The US business has seen a structural decline in demand from the thermal coal market since the 2018 risk assessment.	• Dyno Nobel monitors the global environment, conducts detailed assessments of markets and regularly updates supply and demand forecasts to quickly respond to change. Dyno Nobel seeks to maintain competitive cost positions in its chosen markets, whilst maintaining quality product and service offerings. This focus on cost and quality positions Dyno Nobel's business units to compete over the medium to longer term in changing and competitive environments and the business prefers to engage in long-term customer and supply contractual relationships. • The 1.5°C and 2°C scenarios describe the reduction in demand for explosives in the thermal coal market being partly offset by the mining of new world commodities required for renewable technologies, which could be higher margin activity. In the 3°C+ scenario, the physical impacts of climate change are expected to increase demand for materials, and therefore explosives, in the quarry and construction sector.	Considered an ongoing business risk. The business has been able to remain resilient through shifting supply to other sectors (quarrying and construction and metals) and maintaining a competitive advantage over peers across both manufacturing and supply chain. **KPI: Annual % revenues from thermal coal mining vs other sectors over time in our Dyno Nobel Americas and Dyno Nobel Asia Pacific businesses**
OPPORTUNITY/RISK 2 **Increased demand for new world minerals and reduced demand for base metals** **Transitional: Market Risk** **Climate Scenarios** 1.5° 2° **Impact** LOW **MEDIUM** HIGH Both the 1.5°C Fast Action and 2°C Required Action scenarios describe a significant increase in the mining of primary metals due to increased demand for the 'new world minerals' required for new low-carbon technologies. However, they also describe increased recycling trends which will lower the need for primary metals, especially steel, with scrap steel being utilised in electric arc furnaces. This would reduce the demand for both virgin iron ore and bulk explosives for MET coal mining.	• Strategic action has been taken by Dyno Nobel Americas to shift operations and supply into emerging new world mineral markets in both South America and western USA, and increase revenues from the quarry and construction sector. • IPL's Moranbah manufacturing plant supplies explosives for mines in Queensland's Bowen Basin. This region produces some of the world's highest quality MET coal, with low ash content and low/medium volatile matter. These hard-coking coals are recognised by steelworks as prime coking coals used in steel manufacture, and Australian hard-coking coals are regarded as the industry benchmark. Queensland has 3.75 billion tonnes MET coal with volatile matter less than 25%, which is enough to sustain production for many years. As Dyno Nobel's competitors are likely to see demand drop in line with thermal coal decline, the Moranbah facility will retain the unique competitive advantage of being located close to these MET coal mines. • Dyno Nobel may be at a competitive advantage due to its ability to relocate production through disassembly and reassembly of facilities in a short timeframe (three years) as has been demonstrated with the relocation of the Moranbah plant from the US in 2012.	Active management of demand changes has minimised losses to date. However, there remains a risk that the opportunity in this space may not be as financially material as the risk due to new world minerals requiring less explosives volumes due to their smaller mine size. The business will be required to continue to manage this risk. **KPI: Annual % revenues from coal mining vs other sectors over time in our Dyno Nobel Americas and Dyno Nobel Asia Pacific businesses**

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
SHORT TERM: 1-3 YEARS		
RISK 3 **Regional carbon pricing schemes create a competition risk** **Transitional: Legal and Policy Risk** **Climate Scenarios** 1.5° 2° 3°+ DA **Impact** LOW MEDIUM HIGH Carbon pricing will materially impact Dyno Nobel if it is not applied uniformly across global markets and cannot therefore be passed on in the cost of goods. Further, a carbon price on transport may impact the price of receiving products. The 2°C Required Action scenario describes this impacting Dyno Nobel until 2025, when most shipping and trucking options will be retrofitted with zero or low carbon mobility options.	• IPL's DET Steering Committee has developed Dyno Nobel's Net Zero Pathway and a range of projects which seek to progressively reduce Dyno Nobel's exposure to carbon pricing. • Dyno Nobel has a large, diverse supplier group, which may allow for the purchase of some products from regions where carbon pricing is lower, to avoid competition risks until such time as an equal, global carbon price removes this risk. • Domestic co-location of critical products will reduce carbon costs associated with transport. Diversification away from single source suppliers, already being managed, will also assist in managing the potentially volatile/variable costs associated with increased regulation, including carbon pricing. • Dyno Nobel customer agreements provide for the pass through of carbon pricing where products are not commodities whose price is set by the global market.	Considered a material risk requiring ongoing management. **KPI: Proportion of operational (scope 1&2) emissions covered by carbon pricing schemes**
RISK 4 **Reputational risk impacts capital markets and investors** **Transitional: Market and Reputational Risk** **Climate Scenarios** 1.5° 2° 3°+ **Impact** LOW MEDIUM HIGH Both the 1.5°C Fast Action and 2°C Required Action scenarios describe increased pressure from capital markets and investors to improve climate disclosure, worsening lending conditions, and risk of divestment in the short term.	Dyno Nobel recognises that climate change is a material issue for its business, people, customers, investors and other stakeholders. Dyno Nobel is committed to reducing its impact, assessing and managing strategic and operational risks and opportunities, transparently reporting in line with TCFD recommendations and to engaging in other communications with stakeholders. In 2021, IPL entered into a syndicated term facility with inclusion of sustainability linked targets. The facility demonstrated IPL's commitment to sustainable outcomes by linking the cost of finance to key performance indicators on greenhouse gas emissions and water reductions, as well as increases in soil and plant testing rates.	Considered a material risk requiring ongoing management. **KPI: Number of face to face engagements with investor groups annually**

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
RISK 5 **Physical impact of severe weather events on operations and personnel** **Physical: Acute Risk** **Climate Scenarios** 3°+ DA **Impact** LOW MEDIUM HIGH Some of Dyno Nobel's manufacturing plants are in areas that are susceptible to extreme weather events, such as hurricanes, electrical storms, tropical storms and tornadoes. An increase in the severity and/or frequency of these extreme weather events as a result of climate change may cause more frequent disruption to Dyno Nobel's operations and increase and/or amplify health and safety risks for personnel.	• Dyno Nobel's own manufacturing facilities are considered resilient to the anticipated acute physical impacts of climate change, with measures currently in place to manage exposure where sites are in tornado, electrical storm or hurricane zones. • Some smaller explosives Initiating Systems (IS) manufacturing sites must cease production during electrical storms, with the impacts currently immaterial. These sites could potentially be relocated closer to emerging metals markets located in regions less prone to electrical storms if such interruptions increase. • Safety and evacuation plans are in place for all personnel and sites. • Dyno Nobel endeavours to include force majeure clauses in agreements where relevant; and insurance policies are in place across the Group. • Our Waggaman, Louisiana ammonia plant is located in a hurricane zone. Read about the specific actions being taken for this site on page 61.	Considered a material risk requiring ongoing management. **KPI: Annual financial impact of acute weather events on operations**
MEDIUM TERM 3-6 YEARS		
OPPORTUNITY **Development of green ammonia and renewable hydrogen market** **Transitional: Market and technology** **Climate Scenarios** 1.5° 2° 3°+ DA **Impact** LOW MEDIUM HIGH Both the 1.5°C Fast Action and 2°C Required Action scenarios describe the development of green ammonia and renewable hydrogen in the medium term. IPL is an expert in the manufacture and handling of hydrogen (H_2) and ammonia (NH_3).	Dyno Nobel has a core competency in the manufacture, storage and transportation of ammonia and is well placed to play a role in the 'green hydrogen' and green ammonia for a low-carbon economy. Options including solar hydrogen and other alternative feedstocks are constantly being assessed for viability as part of Dyno Nobel's overall capital management framework, supported by two of our strategic values drivers, Leading Technology Solutions and Manufacturing Excellence. Read about our decarbonisation projects and partnership with Keppel in Section 2.	Dyno Nobel is currently highly dependent on the availability of affordable natural gas, both as a feedstock for hydrogen and as a fuel source. The development of green ammonia and renewable hydrogen is considered to be a material opportunity requiring ongoing management. **KPI: Number of low carbon hydrogen projects being investigated/ implemented annually**
OPPORTUNITY **Demand for low GHG explosives** **Transitional: Market and policy opportunity** **Climate Scenarios** 1.5° 2° 3°+ DA **Impact** LOW MEDIUM HIGH The 1.5°C Fast Action and 2°C Required Action scenarios describe increased demand for low carbon explosives products and services in the medium term. Bulk products, such as ammonium nitrate (AN) that are manufactured with reduced carbon emissions, which reduce our customers' scope 3 GHG, as well as lower carbon and environmentally friendly products, such as Dyno Nobel's DeltaE, will have a significant competitive advantage in this scenario.	Dyno Nobel aims to provide leading technology solutions to meet our customers' needs. Our DeltaE proprietary explosives method reduces both energy use and GHG emissions associated with blasting for our mining and quarry and construction customers. See Section 3 for more details.	The development of explosives products and services which provide solutions for our customers is a core business driver. Considered a material opportunity requiring ongoing management. **KPI: Compound annual growth rate: premium emulsions**

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
LONG TERM: 6+ YEARS		
OPPORTUNITY **Growth in Quarry and Construction sector to rebuild infrastructure due to physical impacts** **Transitional: Market** **Climate Scenarios** 1.5° 2° 3°+ DA The scenarios in which global warming surpasses 1.5°C describe domestic adaptation and rebuilding due to physical impacts. In these scenarios, demand for quarry and construction materials, and therefore explosives demand from this sector, increases in the medium term.	Our DNA business is the second-largest industrial explosives distributor in North America by volume, providing ammonium nitrate, initiating systems and services to the Quarry and Construction sector in the southern US, northeast Midwest US and Canada. More than 40% of DNA revenues are from the Quarry and Construction sector, and this is growing. We have a leading position in this end market, which benefits from a favourable mix of our high grade explosives, proprietary initiating systems and services. We continue to leverage our premium technology platform throughout and beyond the sector, including our proprietary Differential Energy offering. DeltaE has been in operation across the USA over the last four years and is well established in the quarry and construction and hard rock segments where customers value its safety, environmental and efficiency benefits, including reduced GHG emissions due to reduced energy use. DNA also operates a Quarry Academy training centre for stone quarry operators.	Dyno Nobel monitors the global environment, conducts detailed assessments of our markets and regularly updates our supply and demand forecasts so that we can quickly respond to change. Considered a material opportunity requiring ongoing management. **KPI: % Revenues – supply of explosives to Quarry and Construction sector: Americas**
RISK 6 **Stranded asset or long-term contract risk due to late sudden transition** **Transitional: Market Risk** **Climate Scenarios** DA **Impact** LOW MEDIUM HIGH The delayed, abrupt and disorderly transition away from carbon emitting assets described in the Delayed Action scenario presents a risk associated with long-term contracts or offtake agreements from 2030 (customers or suppliers may close before end of contract). Assets which are still emissions intensive or support an emissions intensive industry at this time may become stranded.	• IPL's DET Steering Committee has developed Dyno Nobel's Net Zero Pathway, which will progressively reduce IPL's exposure to the risk of stranded assets, should the Delayed Action scenario eventuate. • Dyno Nobel uses an internal carbon price to test capital investments in assets against a range of scenarios. • Dyno Nobel is developing a management strategy for long-term contracts, including a review of contracts which extend towards 2030 in order to assess exposure to transition risks. • Dyno Nobel is developing a process to consider climate risks within any new long-term contracts.	Due to Dyno Nobel's management strategies, the residual risk in the long term is considered to be greatly reduced. **KPI: Proportion of long-term contracts reviewed.**

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
RISK 7 **Socio-economic downturn/disruption leads to supply chain interruptions and reduced product demand** **Physical: Acute and Chronic Risks** **Climate Scenarios** 1.5° 2° 3°+ DA **Impact** LOW MEDIUM HIGH The Delayed Action and, to a greater extent, 3°C+ Current Trajectory scenarios describe severe acute and chronic physical impacts which lead to infrastructure destruction, famine, competition for food and water, increased geo-political conflict and mass population displacement. In the 3°C+ scenario, this results in severe disruption to global trade and economic downturn.	Dyno Nobel's commitments to finding new ways to reduce GHG emissions, and to continue to develop and deliver products and services which reduce customer emissions, will ensure its contribution to the global aim of limiting global warming and reducing the physical, socio-economic and geopolitical impacts of climate change to those described in the 1.5°C and 2°C scenarios. This will require global action.	Considered to have severe impacts in affected regions. While Dyno Nobel's manufacturing plants are located primarily in wealthy countries with good governance which may be more resilient than most, the long-term future described in this 3°C+ scenario would not be conducive to operating a business regionally and/or globally.

Non-material risks and opportunities for Dyno Nobel

IPL defines a 'material' financial impact as an A$20m impact or greater on earnings before interest and taxes (EBIT). In order to fully disclose the risks and opportunities identified for Dyno Nobel, the table below includes those risks which are not expected to result in a material financial impact, but which Dyno Nobel will continue to monitor and manage.

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	MATERIALITY ASSESSMENT
OPPORTUNITY **Financial incentives associated with carbon pricing schemes, grants or other policy support for decarbonisation** **Physical: Chronic** **Climate Scenarios** 1.5° 2° DA Carbon pricing and other policy support for transitioning to the low carbon future described in the 2°C scenario may create opportunities for Dyno Nobel related to funding for investment in new technologies which reduce GHG emissions.	Dyno Nobel has successfully registered one project to earn Australian Carbon Credit Units (ACCUs) under the current Australian Federal Government Emissions Reduction Fund. We continue to seek opportunities to partner with research organisations to develop emerging technologies. Dyno Nobel's strategic focus on Leading Technology Solutions and Customer Focus as two of our six value drivers also positions us to leverage our premium technology platform throughout all our geographies and sectors, and we continue to develop and provide products and services which reduce our customers' energy use and GHG emissions, as well as monitor schemes which may provide our customers with financial incentives.	Dyno Nobel continues to monitor opportunities and partnerships which may financially assist us and our customers to decarbonise.

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	MATERIALITY ASSESSMENT
RISK **Impact on workers' health and safety** **Physical: Chronic** **Climate Scenarios** 2° 3°+ DA All scenarios which describe greater than 1.5°C of global warming also describe an increase in heat stress and fatigue risks. This would be exacerbated by increased humidity in some regions, especially in Queensland, Australia.	Dyno Nobel currently manages worker health and safety in a range of extreme environments, from polar mining in the DNA business to very hot environments in Australia and Indonesia. A global fatigue management procedure was implemented across the Americas in 2022 and will be extended globally in 2023. This will assist in monitoring the impacts of chronic changes in temperature on employee health and safety.	Dyno Nobel is committed to the ongoing management of worker health and safety through our Zero Harm strategic driver. While we continue to monitor our processes in regard to heat stress and fatigue, we do not consider this to be a material risk to our business.
RISK **Increased rainfall leads to an increased risk of dam overflows** **Physical: Acute and chronic** **Climate Scenarios** 3°+ DA Two Dyno Nobel sites with on-site stormwater ponds have been identified as being in regions where the incidence of high intensity rainfall events is expected to increase. These are in Moranbah, Queensland and Graham, Kentucky. This presents a risk of non-compliance with licence conditions should the dams overflow.	Ongoing and long-term water management strategies are in place to ensure overflows of storm water ponds due to higher intensity rainfall events are avoided.	This risk is being actively managed by Dyno Nobel's operations. The cost of increasing stormwater pond capacity, should it be required, is not expected to be material.
RISK **Physical impact of severe weather events on supply chain logistics and customers** **Physical: Acute** **Climate Scenarios** 1.5° 2° 3°+ DA An increase in the severity and/or frequency of extreme weather events as a result of climate change may cause more frequent disruption to IPL's supply chain and logistics including transportation of raw materials and finished product via road, rail and water. Interruptions to logistics from extreme weather events could result in financial loss if product cannot be stored effectively and degrades, or cannot be transferred off-site, resulting in production losses once site storage has reached capacity. These impacts on customers could also result in decreased product demand for periods of time. All scenarios describe these events as increasing in the short term (1–3 years). Under these scenarios, insurance premiums would be expected to increase along with a possibility that some events may be excluded from cover.	• The COVID-19 pandemic tested the ability of Dyno Nobel's supply chain function to respond to a global crisis, showing a high degree of resilience. • Physical impacts (flooding) on logistics at Louisiana, Missouri (LOMO) have occurred recently with the impacts immaterial. • Low Mississippi River levels have also been experienced, but with no material impact on river transport use. • Additional storage, both onsite and at strategic locations along transport routes, may be necessary along with contingency plans to use alternative forms of transport to access these. • Domestic co-location of critical products and diversification away from single source suppliers, already being managed, will assist in managing supply chain interruption. • The location of the Moranbah facility close to high quality metallurgical coal producers would provide Dyno Nobel with a strategic advantage over its competitors in the event of supply chain disruption due to extreme weather events.	During the scope of work to quantify risks in 2023, this risk was found to be non-material. However, we continue to monitor this risk. **KPI: Annual financial impact of acute weather events causing supply chain disruptions**

Risks and opportunities for IPF

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
CURRENT		
RISK 1 **Physical impact of severe weather events on supply chain logistics and customers** **Physical: Acute Risk** **Climate Scenarios** 1.5° 2° 3°+ DA **Impact** LOW MEDIUM HIGH An increase in the severity and/or frequency of extreme weather events as a result of climate change may cause more frequent disruption to IPF's supply chain and logistics including transportation of raw materials and finished product via road, rail and water. Interruptions to logistics from extreme weather events could result in financial loss if product cannot be transferred off-site, resulting in production losses once site storage has reached capacity. These impacts on customers could also result in decreased product demand for periods of time. All scenarios describe these events as increasing in the short term (1-3 years). Under these scenarios, insurance premiums would be expected to increase along with a possibility that some events may be excluded from cover.	• The COVID-19 pandemic tested the ability of IPF's supply chain function to respond to a global crisis, showing a high degree of resilience. • Physical impacts (wet season flooding) on logistics at Phosphate Hill, Queensland, have occurred recently. A 1 in 100-year flooding event in North Queensland during 2019 damaged third party rail infrastructure and interrupted rail services to the site for an extended period, resulting in a material impact. Seasonal contingency plans have been put in place at this site to mitigate potential future impacts. • Additional storage, both onsite and at strategic locations along transport routes, may be necessary along with contingency plans to use alternative forms of transport to access these. • IPF supplies products to customers across a range of geographic locations and agricultural sectors, reducing the potential impact of extreme weather events on customer demand.	While still considered a material risk which requires ongoing management, residual risk has been greatly reduced due to mitigation strategies for future climate-related rail interruptions to Phosphate Hill. Had these been in place prior to the 2019 Phosphate Hill flooding event, it is estimated that the impact would have been reduced from A$115m to ~A$30m (at 2019 pricing). **KPI: Annual financial impact of acute weather events causing supply chain disruptions**
SHORT TERM: 1-3 YEARS		
RISK 2 **Regional carbon pricing schemes create a competition risk** **Transitional: Legal and Policy Risk** **Climate Scenarios** 2° 3°+ DA **Impact** LOW MEDIUM HIGH Carbon pricing will materially impact IPF if it is not applied uniformly across global markets and cannot therefore be passed on in the cost of goods. Further, a carbon price on transport may impact the price of receiving products. The 2°C Required Action scenario describes this impacting IPF until 2025, when most shipping and trucking options will be retrofitted with zero or low carbon mobility options.	• IPL's DET Steering Committee has developed IPF's Net Zero Pathway and a range of projects which will progressively reduce IPF's exposure to carbon pricing. • IPF has a large, diverse supplier group, which may allow for the purchase of some products from regions where carbon pricing is lower, to avoid competition risks until such time as an equal, global carbon price removes this risk. • IPF customer agreements provide for the pass through of carbon pricing where products are not commodities whose price is set by the global market. • Domestic co-location of critical products would reduce carbon costs associated with transport.	Considered a material risk requiring ongoing management. **KPI: Proportion of operational (scope 1&2) emissions covered by carbon pricing schemes** **KPI: Percentage emissions reductions at sites covered by carbon pricing schemes**

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
RISK 3 **High baseline water stress may lead to water shortages at some IPF operations** **Physical: Chronic Risk** **Climate Scenarios** 1.5° 2° 3°+ DA **Impact** LOW MEDIUM HIGH Cooling water is a key raw material for ammonia manufacturing. In all scenarios, average annual rainfall across the lower half of Australia will be reduced and longer periods of prolonged drought will be created, especially in eastern Australia. While this may be offset somewhat by increased 1 in 20-year flooding events at some locations, and up to 15% more rainfall than historical averages in each single rain event, water restrictions may become more frequent in some areas.	IPF uses the World Resources Institute (WRI) Aqueduct Tool analysis annually as part of its water risk analysis to identify high-water-use sites located in catchments with high current or emerging baseline water stress. One high-water-use site, Gibson Island in Brisbane, Queensland, is in a catchment identified by the tool as currently experiencing high baseline water stress (40-80%) and this is projected to double by 2030. During 2021, a pipeline was completed to bring around 6,000 kL per day of recycled water into the site. Water will also be required as a raw material to produce hydrogen via electrolysis of water at this site under the Gibson Island Green Ammonia project if it proceeds. While recent studies indicate groundwater supplies are secure for Phosphate Hill, Mt Isa water shortages may impact sulphuric acid manufacturing.	The risk associated with our single high-water-use site in a high baseline water stress catchment has been greatly reduced. Future water scarcity concerns could prompt the need for additional water storage at some other sites. The cost of creating additional storage (dams) in these locations would not be material and would avoid an otherwise material impact on production. **KPI: % of freshwater withdrawn in regions with current or future 'high' or 'extremely high' baseline water stress**
RISK 4 **Reputational risk impacts capital markets and investors** **Transitional: Market and Reputational Risk** **Climate Scenarios** 1.5° 2° 3°+ DA **Impact** LOW MEDIUM HIGH Both the 1.5°C Fast Action and 2°C Required Action scenarios describe increased pressure from capital markets and investors to improve climate disclosure, worsening lending conditions, and risk of divestment in the short term.	IPF recognises that climate change is a material issue for our business, our people, our customers, our investors and our other stakeholders. We are committed to reducing our impact, to assessing and managing the strategic and operational risks and opportunities, to transparently reporting in line with TCFD recommendations and to engaging in other communications with our stakeholders. In 2021, IPL entered into a syndicated term facility with inclusion of sustainability linked targets. The facility demonstrated IPL's commitment to sustainable outcomes by linking the cost of finance to key performance indicators on greenhouse gas emissions and water reductions, as well as increases in soil and plant testing rates.	Considered a material risk requiring ongoing management. **KPI: Number of face-to-face engagements with investor groups annually**
MEDIUM TERM 3-6 YEARS		
OPPORTUNITY 1 **Development of green ammonia and renewable hydrogen market** **Transitional: Market and technology** **Climate Scenarios** 1.5° 2° **Impact** LOW MEDIUM HIGH Both the 1.5°C Fast Action and 2°C Required Action scenarios describe the development of green ammonia and renewable hydrogen in the medium term. IPL is an expert in the manufacture and handling of hydrogen (H_2) and ammonia (NH_3).	IPF has a core competency in the manufacture, storage and transportation of ammonia and is well placed to play a role in 'green hydrogen', and green ammonia for a low carbon economy. Renewable energy options including solar hydrogen and other alternative feedstocks are constantly being assessed for viability as part of IPF's overall capital management framework, supported by two of our strategic values drivers, Leading Technology Solutions and Manufacturing Excellence. Read about our decarbonisation projects in Section 2, including our partnership with FFI to investigate green ammonia at our Gibson Island site.	IPF is currently highly dependent on the availability of affordable natural gas, both as a feedstock for hydrogen and as a fuel source. The development of green ammonia and renewable hydrogen is considered to be a material opportunity requiring ongoing management. **KPI: Number of low carbon hydrogen projects being investigated/ implemented annually**

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
OPPORTUNITY 2 **Increased demand for specialist fertilisers due to harsher growing conditions** **Physical: Chronic Risk** **Climate Scenarios** 3°+ DA **Impact** LOW MEDIUM HIGH The Delayed Action and 3°C+ Current Trajectory scenarios describe heat stress, and in some locations, water stress impacting on agricultural production globally, particularly in the mid-latitudes, in the medium term. While heat stress is considered a potential risk, this may result in increased demand for specialist fertilisers to maintain yields in harsher growing conditions in the medium term.	• In line with our Leading Technology Solutions strategic driver, we continue to invest in a range of research projects with topics including new fertiliser technologies for sustained food security, healthy soils for sustainable food production, the development of novel urea coatings and the testing of silicon fertilisers which have been shown to increase heat stress resistance in crops. • IPF's long-term strategy is to grow from a leading fertiliser company, manufacturing and distributing a range of domestic fertilisers, to a sustainable soil health company providing sustainable plant nutrition solutions to improve soil health. This strategy will be leveraged through our expansive distribution footprint to drive new growth products and services towards soil health and changing growing conditions.	Considered a material risk and opportunity requiring ongoing management. **KPI: Number of climate-related research projects funded**
OPPORTUNITY 3 **Partnerships for soil carbon sequestration in agriculture sector** **Transitional: Market and policy opportunity** **Climate Scenarios** 1.5° 2° **Impact** LOW MEDIUM HIGH The 1.5°C Fast Action and 2°C Required Action scenarios describe the development of carbon sequestration opportunities in the agriculture sector which provide IPL with commercial partnership opportunities, such as soil carbon measurement. Demand for sequestration-aiding products, including fertilisers for biofuels, timber or which assist in soil carbon sequestration, may also arise.	Our long-term strategy is to grow IPF from a leading fertiliser company, manufacturing and distributing a range of domestic fertilisers, to a sustainable soil health company providing sustainable plant nutrition solutions to improve soil health. Our strategy will be leveraged through our expansive distribution footprint to drive new growth products and services towards soil health and changing growing conditions. As part of this strategy, IPL owns and operates an analytical laboratory, Nutrient Advantage (NA), which offers specialist soil, plant and water testing to advisors and farmers, and tests approximately 200,000 soil, plant and water samples each year. During 2021, NA launched a new soil health package to provide farmers with precise objective analysis and industry leading agronomic advice to help build healthier soils. The package includes tests for total carbon (C), total nitrogen (N), C:N ratio, aggregate slaking and dispersion, active (labile) carbon and microbial respiration (activity estimation).	The development of fertiliser products and services which provide solutions for our customers is a core business driver. Considered a material opportunity requiring ongoing management. **KPI: Number of soil and plant tests per annum**

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
OPPORTUNITY 4 **Demand for low GHG emitting fertilisers** **Transitional: Market and policy opportunity** **Climate Scenarios** 1.5° 2° **Impact** LOW **MEDIUM** HIGH The 1.5°C Fast Action and 2°C Required Action scenarios describe increased demand for low carbon fertiliser products and services in the medium term. Products that are lower carbon and environmentally friendly (e.g. slow release fertilisers) will have a significant competitive advantage in this scenario.	We aim to provide leading technology solutions to meet our customers' needs. In 2020, we saw 28% growth in the sales volumes of our third high efficiency fertiliser, eNpower™, which was released to market in 2019. Like our Green Urea® product, eNpower™ is specially formulated to retain nutrients in more stable forms for longer periods, increasing plant nutrient uptake and reducing the likelihood of volatilisation losses to the atmosphere as GHG and to waterways through leaching. Enhanced efficiency fertilisers have been shown to reduce GHG emissions from their use by up to 76%, dependent upon the application, for farming customers[1]. See Section 3 for more details.	The development of fertiliser products and services which provide solutions for our customers is a core business driver. Considered a material opportunity requiring ongoing management. **KPI: Annual revenues from high efficiency fertilisers (Green Urea and eNpower)**
LONG TERM: 6+ YEARS		
OPPORTUNITY/RISK 5 **Shifting growing regions leads to fertiliser demand shifts** **Physical: Chronic Risk** **Climate Scenarios** 3°+ DA **Impact** **LOW** MEDIUM HIGH All scenarios which describe greater than 1.5°C of global warming also describe changes to local climates that result in growing regions shifting poleward due to changes in soil temperatures in almost all agricultural zones, as well as changes in soil water content and water availability. This would result in increased fertiliser demand in new regions and decreased or changing demand in current growing regions in the long term.	• IPF currently operates in all four major climatic zones in Australia, including far North Queensland where some conditions are similar to those which may be experienced further south in the very long term. Along with our strategy to grow IPF from a leading fertiliser company to a sustainable soil health company, this presents a strategic opportunity for IPF to partner with customers to develop and trial new suitable products that match the kinds of volatility that is likely to be experienced by farmers. • In line with our Leading Technology Solutions strategic driver, we continue to invest in a range of research projects with topics including new fertiliser technologies for sustained food security, healthy soils for sustainable food production, the development of novel urea coatings and the testing of silicon fertilisers which have been shown to increase heat stress resistance in crops. • IPF's extensive distribution networks enable it to roll out new products quickly and easily to a range of affected customers, from Cairns in North Queensland, to Tasmania and South Australia.	Considered a material risk and opportunity requiring ongoing management. **KPI: Annual revenues from high efficiency fertilisers (Green Urea and eNpower)**

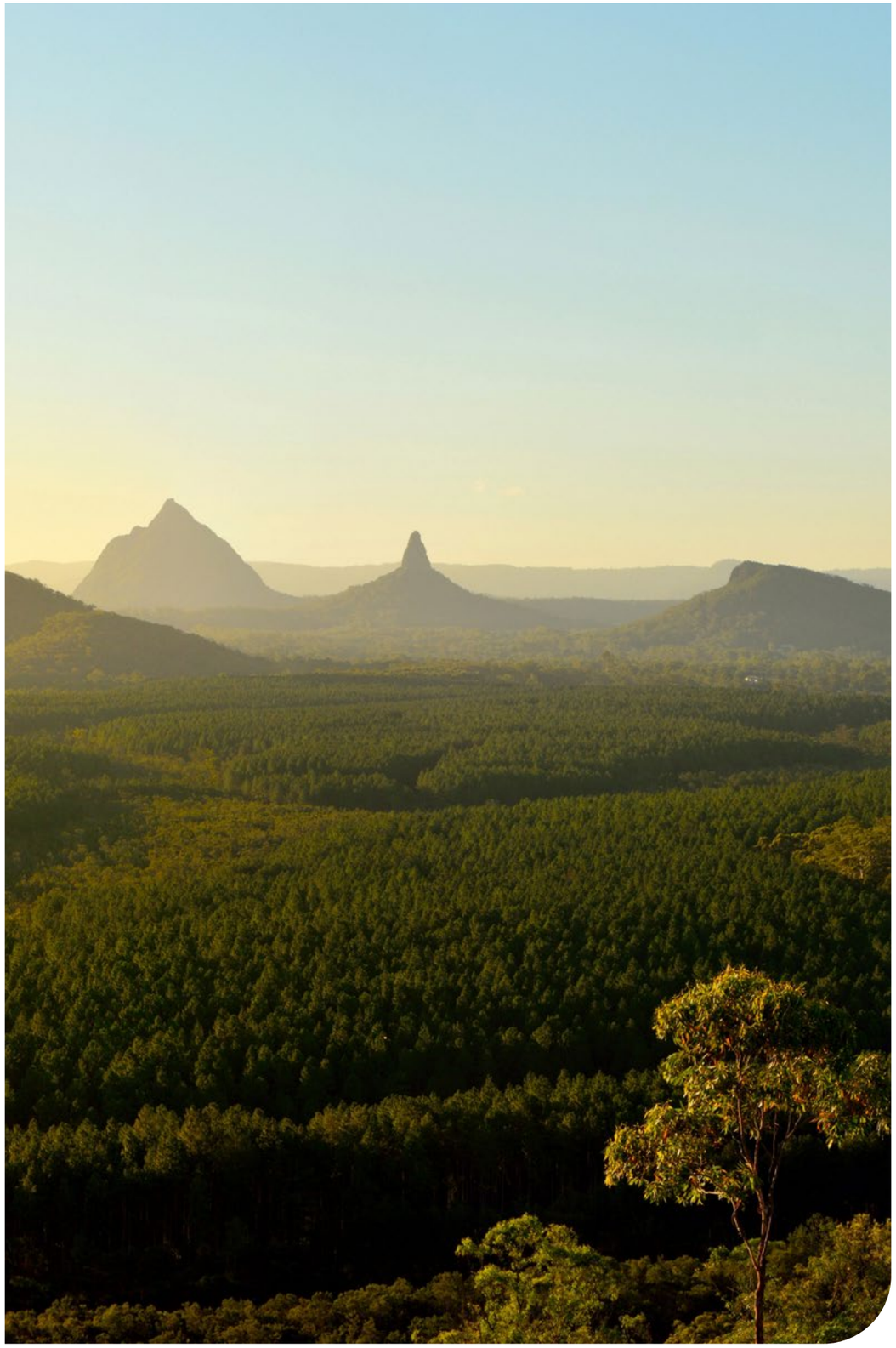
RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	RESIDUAL RISK ASSESSMENT
RISK 6 **Stranded asset or long-term contract risk due to late sudden transition** **Transitional: Market Risk** **Climate Scenarios** DA **Impact** **LOW** MEDIUM HIGH The delayed, abrupt and disorderly transition away from carbon emitting assets described in the Delayed Action scenario presents a risk associated with long-term contracts or offtake agreements from 2030 (customers or suppliers may close before end of contract). Assets which are still emissions intensive or support an emissions-intensive industry at this time may become stranded.	• IPL's DET Steering Committee has developed IPF's Net Zero Pathway, which will progressively reduce IPL's exposure to the risk of stranded assets, should the Delayed Action scenario eventuate. • IPF uses an internal carbon price to test capital investments in assets against a range of scenarios. • IPF is developing a management strategy for long-term contracts, including a review of contracts which extend towards 2030 in order to assess exposure to transition risks. • IPF is developing a process to consider climate risks within any new long-term contracts.	Due to IPF's management strategies, the residual risk in the long term is considered to be greatly reduced. **KPI: Proportion of long-term contracts reviewed**
RISK 7 **Socio-economic downturn/disruption leads to supply chain interruptions and reduced product demand** **Physical: Acute and Chronic Risks** **Climate Scenarios** 3°+ **Impact** LOW **MEDIUM** HIGH The Delayed Action and, to a greater extent, 3°C+ Current Trajectory scenarios describe severe acute and chronic physical impacts which lead to infrastructure destruction, famine, competition for food and water, increased geo-political conflict and mass population displacement. In the 3°C+ scenario, this results in severe disruption to global trade and economic downturn.	IPF's commitments to finding new ways to reduce our emissions and to continue to develop and deliver products and services which reduce our customers' emissions will ensure that we contribute to the global aim of limiting global warming and reducing the physical, socio-economic and geopolitical impacts of climate change to those described in the 1.5°C and 2°C scenarios. This will require global action.	Considered to have severe impacts in affected regions. While IPF operates primarily in Australia, a wealthy country with good governance which may be more resilient than most, the long-term future described in this 3°C+ scenario would not be conducive to operating a business regionally and/or globally.

1. Meng, Y., et al (2021) Geoderma, Nitrification inhibitors reduce nitrogen losses and improve soil health in a subtropical pastureland (388) at **https://www.sciencedirect.com/science/article/abs/pii/S0016706121000215**.
   See also: Suter, H., Lam, S. K., Walker, C., & Chen, D. (2020). Enhanced efficiency fertilisers reduce nitrous oxide emissions and improve fertiliser 15N recovery in a Southern Australian pasture. The Science of the total environment, 699, 134147. **https://doi.org/10.1016/j.scitotenv.2019.134147**.

Non-material IPF risks and opportunities

IPL defines a 'material' financial impact as an A$20m impact or greater on EBIT. The table below includes those risks which are not expected to result in a material financial impact, but which IPF will continue to monitor and manage.

RISK OR OPPORTUNITY	STRATEGY AND MITIGATING ACTIONS	MATERIALITY ASSESSMENT
OPPORTUNITY **Financial incentives associated with carbon pricing schemes, grants or other policy support for decarbonisation** **Physical: Chronic** **Climate Scenarios** 1.5° 2° DA Carbon pricing and other policies described in the 2°C scenario may create opportunities for IPF related to funding for investment in new technologies which reduce GHG emissions.	IPF continues to develop its Gibson Island Green Ammonia Project in partnership with FFI, which secured a A$13.7m ARENA grant to proceed to FEED in 2022, and continues to seek opportunities to partner with research organisations to develop emerging technologies. IPF continues to develop and provide products and services which reduce our customers' GHG emissions, as well as monitor schemes which may provide our customers with financial incentives to adopt these products.	IPL continues to monitor opportunities and partnerships which may financially assist us and our customers to decarbonise.
RISK **Impact on workers' health and safety** **Physical: Chronic** **Climate Scenarios** 2° 3°+ DA All scenarios which describe greater than 1.5°C of global warming also describe an increase in heat stress and fatigue risks. This would be exacerbated by increased humidity in some regions, e.g. Queensland, Australia.	IPF currently manages worker health and safety in very hot environments in Australia. A global fatigue management procedure was implemented in 2023 which will assist in monitoring the impacts of chronic changes in temperature on employee health and safety.	IPL is committed to the ongoing management of worker health and safety through our Zero Harm strategic driver. While we continue to monitor our processes in regard to heat stress and fatigue, we do not consider this to be a material risk to our business.
RISK **Increased rainfall leads to dam overflows** **Physical: Acute and chronic** **Climate Scenarios** 3°+ DA Two sites with on-site stormwater ponds have been identified as being in regions where the incidence of high intensity rainfall events is expected to increase. These are in Phosphate Hill and Gibson Island (both in Queensland). This presents a risk of non-compliance with licence conditions should the dams overflow.	Ongoing and long-term water management strategies are in place to ensure overflows of stormwater ponds due to higher intensity rainfall events are avoided.	This risk is being actively managed by IPL operations. The cost of increasing stormwater pond capacity, should it be required, is not expected to be material.
RISK **Sea level rise increases storm inundation risk** **Physical: Acute and chronic** **Climate Scenarios** 3°+ DA The Gibson Island manufacturing site and one distribution site at Portland, Victoria are located on coasts very close to sea level. A significant rise in sea level combined with a king tide may cause inundation events at these sites in the long term.	The construction of sea level management infrastructure (levies, etc.) will be considered in the long term for the identified sites where it may be required to manage the risk of inundation due to storm surges and sea level rise. For small distribution sites, relocation opportunities will also be assessed.	This risk is being actively managed by IPL operations. The risk is not considered to be financially material due to the non-material costs of building sea-level management infrastructure and/or relocating small sites.



Building our resilience to physical climate risk

Because warming of the Earth's atmosphere and oceans is causing changes to regional climates, or permanent shifts in local weather conditions that are not uniform across the globe, the physical impacts will be different at different locations. For this reason, our scenario-based risk assessments considered the physical impacts on IPL's customer markets, and on our 12 major manufacturing operations on an individual and detailed basis.

We recognise that due to the impacts of climate change on agriculture, new fertiliser technologies will be required for sustained food security, and we partner with a range of research institutions and customers on research and trials.

With the exception of our Waggaman, Louisiana site, which is located in a hurricane zone, IPL's own manufacturing facilities are in areas considered to be relatively resilient to the anticipated acute physical impacts of climate change, with the most material physical impacts relating to supply chain and logistics interruptions.

Expected changes in the prevailing local weather conditions associated with climate change can also act as an amplifier of other risks across IPL's risk profile. For example, a greater risk of extreme weather events increases both the likelihood and potential impact of risks to the integrity of IPL's assets and may increase the risk of accidental releases to the environment.

Higher temperature and humidity, as well as an increasing incidence of extreme heat events, increases the risk of heat stress for our people at some of our sites. For this reason, we have incorporated the future climate scenarios developed for each of our 12 major manufacturing sites into Climate Change Risk Review Packs to drive climate-related risk assessment throughout our risk management framework. The aim is twofold:

1. to ensure that the climate change specific risks identified for each site during our most recent scenario risk analyses have been incorporated into site risk registers and are being managed; and
2. to assist sites in identifying any existing operational risks which may be amplified by the expected changes in prevailing weather conditions at each site and ensure that any additional controls required are identified and assigned to risk control owners.

CASE STUDIES

Developing silicon fertilisers for a warming climate

During 2023, we continued testing, with a view to commercialising, silicon fertilisers which have been shown to increase stress resistance in crops and replace silicon lost from soils through certain crops. Although silicon is generally not considered as an essential element in agriculture, the use of natural silicates may improve use efficiency of a range of nutrients including phosphorus for maintaining sustainable agriculture, especially if drought stress begins to impact crop production due to climate change.

Natural silicates have been shown to increase biomass yield and/or grain yields where water is scarce and, in the case of rice, have increased resistance to damage from typhoons[1]. Research to date indicates that crop tolerance of abiotic stresses, such as those related to drought conditions, can be increased and we continue to investigate the ways in which silicon may help future-proof agriculture in a world impacted by climate change.

1. Guntzer, F., Keller, C. and Meunier, J. (2012) Benefits of plant silicon for crops: a review. Agronomy for Sustainable Development, Springer Verlag/EDP Sciences/INRA, 2012, 32. (1), pp.201-213. ff10.1007/s13593-011-0039-8ff. ffhal-00930510.

Future-proofing water supplies in Brisbane and Geelong, Australia

Our scenarios describe long-term changes to rainfall patterns as a result of climate change in some geographies. For this reason, we complete an annual review of our manufacturing sites, using the World Resources Institute (WRI) Aqueduct Tool, to identify those at high risk in relation to water use. The WRI water tool has identified our Gibson Island and Geelong sites as being located in catchments currently subject to high (40-80%) baseline water stress and high 'Physical risk – Water Quantity' due to relatively large local populations and high interannual variability in rainfall. The Tool also predicts that baseline water stress in both catchments will double by 2030 due to climate change and population growth.

At Gibson Island, IPL worked with Seqwater, the Queensland Bulk Water Supply Authority, and Urban Utilities to enable the supply of recycled water to the IPL Gibson Island site. During 2021, we invested A$4m in infrastructure, including a dedicated pipeline, to ultimately enable around 6,000kL per day of recycled water to be delivered to site for use. During 2022, 799,674kL of recycled water was used, replacing 32% of the site's municipal water use, and in 2023 this was 371,762kL. The site ceased natural gas based ammonia manufacture this year, greatly reducing the use of cooling water. However, should the GI Green Ammonia project proceed, recycled water will be used for electrolysis to produce hydrogen for green ammonia.

A similar recycled water project is under investigation for our Geelong site. These projects will assist in providing uninterrupted water supplies in the event that municipal water supplies become restricted and will leave more water in municipal water supply dams for our communities.

CASE STUDIES (CONTINUED)

ARC research hub for smart fertilisers

With society facing the triple challenges of food security, environmental degradation and climate change, we recognise the need for research to develop next-generation fertiliser products that will improve nitrogen use efficiency to feed a growing population, while reducing nitrogen losses from food production systems to the environment, especially as greenhouse gases (N_2O).

The **ARC Hub for Smart Fertilisers** (funded as the Hub for Innovative Nitrogen Fertilisers and Inhibitors) is funded by the Australian Research Council under the Industrial Transformation Research Program (ITRP), in partnership with industry – IPL and Elders Rural Services – and two universities, The University of Melbourne and La Trobe University.

During 2023, the hub has continued to work on improvements to the design and development of Enhanced Efficiency Fertilisers (EEFs). Taking a multidisciplinary approach, the research integrates agronomy and soil science with synthetic chemistry, chemical engineering, plant physiology, plant biochemistry and economics.

A primary research focus is engineering new fertiliser coatings for the controlled release of nutrients and inhibitors in a range of soil types, climatic conditions and diverse agroecosystems and land uses.

Granular urea is the most widely used form of nitrogen (N) fertiliser in agriculture. Urea is rapidly converted to ammonia through a reaction with water in the soil, and then to nitrate, which plants can then take up. However, if the conversion to ammonia occurs before urea is fully dissolved in the soil, ammonia can be lost to the atmosphere before plants can use it.

Metal-Phenolic Networks (MPNs) can provide a physical barrier against water, controlling the dissolution of urea and its release into soil reducing the risk of N losses. In 2023, this work continued with a focus on the incorporation of beneficial metals and inhibitors into metal phenolic networks.

Another research focus is on the development of a new suite of inhibitors, which are small synthetic molecules that slow the conversion of urea to ammonia by inhibiting the activity of the enzyme urease (urease inhibitors) or slowing the microbial autotrophic oxidation of ammonia to nitrite and nitrate (nitrification inhibitors). As of 2023, a range of new molecules are under evaluation.

The aim is to retain desirable forms of N in the soil for the plant, and limit N losses. These new inhibitors are intended to be tailored to different soils, climates and cropping systems, at the same time ensuring that their eventual degradation in the soil is environmentally benign.

The soil immediately around plant roots – the rhizosphere – is an especially active zone populated by billions of fungi, bacteria and other microbes. These microorganisms break down organic matter in the soil to produce nutrients that plants can use for growth and help plants to improve immunity and promote resistance to drought, salinity and N stresses.

Research shows that plants can influence how fungi and bacteria behave by sending chemical signals like sugars, organic acids, lipids and proteins, especially when lacking a specific nutrient or under stress. The research focuses on the identification and incorporation of these messengers into the coating of fertiliser beads. Beneficial microbes are then attracted by these messengers to the plant root, improving the absorption of N and promoting the resistance of a crop to environmental stresses.

EEF coatings may also be designed to include sensors that respond to the signalling molecules released by plants suffering from N stress. When the sensors detect these stress molecules in the soil, the fertiliser is then released via the coating.

By measuring the N loss pathways and yield benefits of existing and newly developed products in field trials, the agronomic, environmental and social benefits of the new fertiliser technologies developed by the Hub can then be evaluated.

The Hub will develop indicators of N losses to allow farmers to understand the full impact of their fertiliser management practices on their production and on the environment.

IPL is proud to be partnering in this important research to support food security into the future.

CASE STUDIES (CONTINUED)

Mitigating the risk of flooding at LOMO and Wolf Lake

Our Louisiana, Missouri (LOMO) ammonium nitrate manufacturing facility supplies explosives to the iron range in the US northern mid-west, up into Canada (Ontario and Quebec) and periodically into eastern US Pennsylvania and the Appalachian area. This site was identified by our scenario risk assessment as being at risk of supply chain interruptions due to an increased incidence of flooding, beginning in the short term.

This risk is closely monitored by site personnel from February to April each year with site monitoring processes ensuring 7 to 10 days' notice of heavy rainfall in the north that will come down the river, or blockages downstream which will cause local flooding. Once triggered, significant cross functional collaboration between our supply chain, finance, manufacturing, nitrogen sales, logistics and environmental teams is set in motion, with twice-weekly meetings to implement the site's risk mitigation plan.

In 2019, when this site experienced a Mississippi high-water event, damage to the rail line interrupted rail services, which are used to transport product out of the site, from mid-March to the end of June. The risk mitigation plan was triggered in early March and product from the site was transferred to trucks. Arrangements with third party transloading facilities along the rail line were put in place to transfer the product from truck to rail beyond the flood damaged section. Although a brief plant outage did occur, the mitigation response was extremely successful, with a total EBIT impact of less than $US10m and no customers left short of product. Learnings from this event have further prepared the site for any future events.

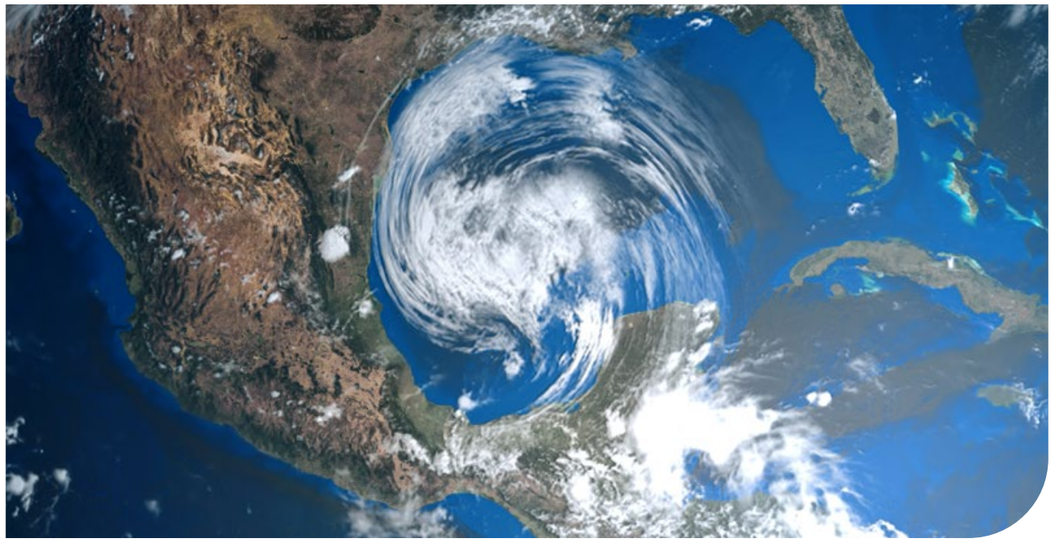
During 2023 a flood specialist was engaged to re-evaluate the flood exposure at our Wolf Lake site in Illinois. Due to the previous assessment being based on an older survey map, the flood specialist used a GPS survey tool to more accurately measure levels, which highlighted that many were significantly lower than previously thought. This resulted in a number of recommendations in the final report to help mitigate the potential risk associated with future floods.

Mitigating supply chain risks associated with flooding events at Phosphate Hill

Our Phosphate Hill ammonium phosphate fertiliser manufacturing site is located in remote northern Australia, near a natural phosphate deposit. The site manufactures ammonium phosphate fertilisers for use along the eastern Australian coast and internationally. All of IPL's future climate-related scenarios describe hotter, wetter weather conditions in the short term, with an increase in the incidence and magnitude of flooding events due to climate change. While the site itself is not located in the flood zone, a single third-party operated rail line is used for supply into, and product transport out of, the site.

Disruptions to this rail line have increased in recent years due to flooding associated with the summer monsoon. In 2016, flood waters caused a derailment of sulphuric acid supply to the site, resulting in an A$10m impact on EBIT; and in 2019, a 1 in 100-year flooding event damaged third-party rail infrastructure, interrupting rail services to the site for three months. This rail outage required a change from rail to road transport of product for the three months. Production was also halted once product storage was at capacity, with a total EBIT impact of A$115m.

Following this event, a detailed review of contingency plans for rail interruptions at the site was completed. As a result, A$3.6m was invested in building additional on-site and contingency storage so that future events will not lead to production interruptions. A dry truck unloading chute-conveyor and telehandler are hired for wet seasons, and a number of other process changes have been implemented which will allow IPL to better prepare for, manage and mitigate the risks associated with future rail interruptions, both minor and major. Had these contingencies been in place before the 2019 flooding event, it is estimated that the impact would have been reduced from A$115m to approximately A$30m (at 2019 pricing).



CASE STUDIES (CONTINUED)

Preparing WALA for extreme weather events

Due to its location in a hurricane zone, our Waggaman, Louisiana ammonia manufacturing plant was built in 2016 to comply with wind codes set out by the International Building Code Design Standard IBC 20 and Minimum Design Loads for Buildings and Other Structures ASCE 7-05 which include the relevant standards for wind load, occupancy categories, basic wind speed and exposure. The design was signed off by a Louisiana based certified Professional Engineer with experience in these design standards for the region, where the impacts of future hurricanes must be considered. The required permits also included ensuring that the plant was built at a height above Louisiana's expected future inundation levels.

As part of its emergency response plan, the facility has a hurricane procedure which details the preparations that are made at various times prior to hurricane strike. Preparations include:

- Management of the hurricane staffing crew;
- Housekeeping checks to remove or tie down materials that could become airborne;
- Ensuring the back-up power generator has adequate fuel;
- Ensuring the site has adequate supplies for the hurricane staff and for recovery post storm;
- Communication with logistics on the status and coordination of final shipments prior to the event; and
- Internal Company updates on plant status and readiness for the event.

If the expected hurricane is of a high intensity, the plant may be required to shut down. This decision has Zero Harm as the primary goal, and is made in consultation with Cornerstone Chemical Company (the overall site Owner), St. Charles and Jefferson Parish Emergency Operations Centers, and with the support of IPL senior management. When this decision is made, a process is followed to shut down the plant in a controlled manner, with steps to cool and purge the system of hydrocarbons, block in major reactors under nitrogen purge and install additional securing of the cooling tower fans to prevent wind damage.

Staff remaining on site are required to be housed in the control building which is rated for hurricane strength winds and was built at an elevation where risk of flooding is negligible.

The procedure also calls for the storage of adequate supplies of food and water for the expected duration of the event and the release of staff early to make personal arrangements then return to site in advance of the event to make final preparations and begin monitoring. The procedure references emergency evacuation routes which limit direction of travel on the major highways in the New Orleans metropolitan area. Additional safety buddies are required when performing work in the plant and employees are to remain inside when winds rise above 60 miles (100km) per hour.

Post storm, the procedure requires an assessment to be conducted prior to start-up to ensure Zero Harm. The assessment targets hazards such as potential chemical loss of containment, downed power lines and compromised structures and, where required, forms the basis of a recovery plan. Once plant repairs are completed, the plant is restarted using procedures which include functional checks of systems.

Since commissioning, the facility has experienced seven tropical storms and hurricanes with zero injuries to our people and only one financial material impact to date caused by Hurricane Ida (Cat 4) with 23 days of production losses and a financial impact of US$28m. Production losses were the result of loss of power to the site from our electricity supplier.

To further reduce the financial impacts of future power outages associated with hurricanes and storm events, it is planned to finalise commissioning of a new natural gas-fired boiler in early 2024 to generate the extra process steam required to restart the facility. This removes the need to rely on purchased steam, which is not always available for restart when required.

The site has also entered into a lease agreement for the installation of a steam turbine generator to use excess steam from the plant and the new boiler to generate electricity. Fabrication of the steam turbine generator is well advanced with commissioning expected by late 2024. This will offset most of the site power demand from the grid and avoid future production losses associated with extended local power outages after hurricane and storm events. It is planned that this electricity will also provide power to run the carbon capture facility described on page 17.

Appendices

1. Scenario references

Scenario A: Fast Action (1.5 Degrees)

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A9: Climate Analytics (2019) *Coal phase-out.* https://climateanalytics.org/briefings/coal-phase-out/

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A11: International Energy Agency (2021) *Net Zero by 2050: A Roadmap for the Global Energy Sector.* https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

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A13: BloombergNEF (2020), *Hydrogen Economy Outlook: Key Messages.* https://data.bloomberglp.com/professional/sites/24/BNEF-Hydrogen-Economy-Outlook-Key-Messages-30-Mar-2020.pdf

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Scenario B: Required Action (2 Degrees)

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Scenario C: Delayed Action followed by Rapid Action (Inevitable Policy Response – IPR)

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Scenario D: Current Trajectory (>3 Degrees)

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2. TCFD disclosures table

TCFD RECOMMENDED DISCLOSURE	LOCATION OF DISCLOSURE
GOVERNANCE	
Disclose the organisation's governance around climate-related risks and opportunities.	'Ensuring Strong Governance', p. 8-15
a) Describe the Board's oversight of climate-related risks and opportunities.	'Ensuring Strong Governance', p. 11-12
b) Describe management's role in assessing and managing climate-related risks and opportunities.	'Ensuring Strong Governance', p. 13-15
STRATEGY	
Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.	'Management Roles and Responsibilities', p. 13-15 'Reducing Operational Emissions', p. 16-23 'Managing Strategic Business Risks and Opportunities', p. 32-61
a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.	'Managing Strategic Business Risks and Opportunities', p. 42-61
b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning.	'Management Roles and Responsibilities', p. 13-15 'Reducing Operational Emissions', p. 16-23 'Managing Strategic Business Risks and Opportunities', p. 42-61
c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	'Management Roles and Responsibilities', p. 8-15 'Reducing Operational Emissions', p. 16-23 'Managing Strategic Business Risks and Opportunities', p. 42+61
RISK MANAGEMENT	
Disclose how the organisation identifies, assesses, and manages climate-related risks.	'Managing Strategic Business Risks and Opportunities', p. 32-61
a) Describe the organisation's processes for identifying and assessing climate-related risks.	'Managing Strategic Business Risks and Opportunities', p. 32-43
b) Describe the organisation's processes for managing climate-related risks.	'Managing Strategic Business Risks and Opportunities', p. 42-61
c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.	'Management Roles and Responsibilities', p. 13-15 'Managing Strategic Business Risks and Opportunities', p. 42-61
METRICS AND TARGETS	
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	'Managing Strategic Business Risks and Opportunities', p. 45-61 (column 3)
a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	'Managing Strategic Business Risks and Opportunities', p. 45-61 (column 3) 'Metrics Used to Assess and Manage Climate-Related Risks and Opportunities', p. 66
b) Disclose scope 1, scope 2, and, if appropriate, scope 3 greenhouse gas (GHG) emissions, and the related risks.	'Reducing Operational Emissions', p. 18-19 'Delivering Products and Strategies to Reduce scope 3 GHG', p. 24-31 '3. Energy and GHG emissions Data', p. 67
c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	'Highlights on our Journey', under 'GHG Reduction Pathway', p. 7 'Highlights on our Journey', under '2021', p. 7

METRICS USED TO ASSESS AND MANAGE CLIMATE-RELATED RISKS AND OPPORTUNITIES				
PHYSICAL RISKS	**2020**	**2021**	**2022**	**2023**
Financial impact due to weather-related events	$0	A$37.3m (Hurricane Ida – US)	A$4m (Flood impacts – Australia)	A$0
Percentage of freshwater withdrawn in regions with high or extremely high baseline water stress	4.8%	5.2%	3.1%	1.0%[2]
Percentage of withdrawals where water management is considered to be a material issue	23%	27.3%	25.1%	5.3%[2]
Water withdrawal intensity (kL/t product manufactured for sale)	11.5	11.6	13.0	14.9
Net water use intensity (kL/t product manufactured for sale)	3.8	4.5	5.1	5.9
PHYSICAL OPPORTUNITIES – EXPLOSIVES	**FY16 TO FY20**	**FY17 TO FY21**	**FY18 TO FY22**	**FY19 TO FY23**
Increasing demand for climate adaptation products – Compound annual growth rate: premium emulsions (including DeltaE)	DNA – 23% DNAP – 26%	DNA – 26% DNAP – 27%	DNA – 15% DNAP – 21%	DNA – 10% DNAP – 27%
PHYSICAL OPPORTUNITIES – FERTILISERS	**2020**	**2021**	**2022**	**2023**
Increasing demand for climate adaptation products – Revenues from high efficiency fertilisers (Green Urea and eNpower)	A$17.6m	A$20.1m	A$27.8m	A$33.5m
TRANSITION RISKS	**2020**	**2021**	**2022**	**2023**
GHG intensity per tonne ammonia produced (tCO_2e per t ammonia)[1]	1.99	2.03	1.97	1.91
% reduction in GHG intensity per tonne ammonia produced since 2015	10%	8%	11%	11%
Proportion of operational (scope 1&2) emissions covered by carbon pricing schemes	41%	47%	43%	36%
Number of major manufacturing facilities included in regional or national carbon pricing schemes	3	3	3	4
Number of major manufacturing facilities financially impacted by regional or national carbon pricing schemes	1	1	1	1
% Revenues – supply of explosives to thermal coal mining: Americas	21%	18%	21%	12%
% Revenues – supply of explosives to thermal coal mining: Asia Pacific	5%	5%	3%	2%
TRANSITION OPPORTUNITIES	**2020**	**2021**	**2022**	**2023**
Number of climate-related research projects funded	3	4	4	4
Number of patents held for reduced carbon products/technologies	10	10	10	10

1. Restated due to restatement of scope 1 emissions resulting from improved measurement technologies installed during 2021.
2. Reductions are mostly due to the Gibson Island Recycled Water project, with the cessation of natural gas based manufacturing at this site during 2023 also a contributing factor.

3. Energy and GHG emissions data

ENERGY USE (GJ)				
	2020	**2021**	**2022**	**2023**
Energy Use (GJ)	70,071,149	60,629,371	67,223,544	61,580,676
OPERATIONAL GHG EMISSIONS (tCO_2e)[1]	**2020**	**2021**	**2022**	**2023**
Scope 1 emissions (tCO_2e)	3,646,215	3,065,695	3,550,961	3,595,407
Scope 2 emissions (tCO_2e)	345,181	351,523	338,223	242,798
Operational GHG Emissions	**3,991,396**	**3,417,218**	**3,889,184**	**3,838,204**
VALUE CHAIN GHG EMISSIONS (kt CO_2e)	**2020**	**2021**	**2022**	**2023**
Total scope 3 emissions (kt CO_2e)[2]	**9,994**	**9,636**	**9,156**	**8,154**
Category 1. Purchased goods and services	3,151	3,390	2,759	2,916
Category 2. Capital goods	Not material. Not calculated.			
Category 3. Fuel and energy related activities	657	559	606	732
Category 4. Upstream transportation and distribution	413	403	339	349
Category 5. Waste generated in operations	6	6	6	5
Category 6. Business travel	7	7	7	7
Category 7. Employee commuting	0.7	0.7	0.7	0.7
Category 8. Upstream leased assets	Not applicable			
Category 9. Downstream transportation and distribution	Included in Category 4			
Category 10. Processing of sold products	Not material. Not calculated.			
Category 11. Use of sold products				
Fertilisers	5,204	4,721	4,852	3,636
Explosives	303	290	313	316
Industrial Chemicals	142	154	164	96
Category 12. End of life treatment of sold products	Not applicable			
Category 13. Downstream leased assets	Not applicable			
Category 14. Franchises	Not applicable			
Category 15. Investments	110	106	110	97

1. Our 2020, 2021 and 2022 operational emissions have been restated in 2022 due to external review which aligned our global scope 1&2 calculations more fully with the GHG Protocol.
2. Our 2020, 2021 and 2022 scope 3 emissions have been restated due to an external review which aligned our calculation methodology more fully with the GHG Protocol. This has resulted in an increase due to the use of LCA based 'cradle-to-gate' emissions factors for purchased products and the inclusion of emissions values for categories not previously included, such as business travel and employee commuting.

4. Scope 3 emissions calculation methodology

'Scope 3' is the term used to describe the indirect GHG emissions resulting from activities in our value chain but outside of our operational control. They include 'upstream' emissions related, for example, to the extraction of the natural gas we use and the production of the materials we purchase for use at our operations, and 'downstream' emissions which arise from customer use of the products we supply.

They also include the emissions arising from operations in which IPL owns an interest but does not have operational control (see category 15 in the table below). The GHG Protocol Corporate Value Chain (scope 3) Accounting and Reporting Standard further categorises scope 3 emissions into 15 distinct categories. We have calculated scope 3 emissions for our business according to these categories.

The table below describes the calculation boundaries (including any exclusions of particular emissions sources within a category), methodologies, assumptions and references used to calculate the emissions estimate for each relevant scope 3 category for the years 2020, 2021, 2022 and 2023. In categories where scope 3 emissions have not been calculated, the basis for excluding the category is provided under 'Explanation'.

SCOPE 3 STANDARD EMISSIONS CALCULATION ASPECT	IPL METHODOLOGY
CATEGORY 1: PURCHASED GOODS AND SERVICES (EXCLUDING CAPITAL GOODS)	
Category description	Upstream (i.e. cradle-to-gate) GHG emissions from goods and services purchased or acquired by the reporting company in the reporting year, where not otherwise included in categories 2-8.
Calculation status	Material. Calculated.
Calculation boundary	This category covers emissions generated upstream of IPL's operations associated with the manufacture of purchased fertilisers, explosives and chemical products, from the moment resources are mined, extracted, or grown to make these products, through all processing, manufacturing and transport to the exit at our suppliers' gates. The manufacture of many of these products, such as ammonia-based fertilisers and explosives, are classified as Emissions Intensive Trade Exposed (EITE) activities under the Australian National Greenhouse and Energy Reporting (NGER) system and are the most material contributors to this category.
Exclusions	Only the emissions associated with purchased chemical products (and the proportion of expenditure and volume they represent) are included. Due to the high emissions intensity of these products, these sources are estimated to include the majority of IPL's scope 3 emissions in this category.
Calculation methodology	Total tonnes purchased of each material is extracted from IPL's internal purchasing system for each financial year period. A scope 3 emissions factor specific to each material was then applied per tonne (see 'References' below).
Data sources	'Annual tonnes purchased' data is extracted from the IPL internal system that tracks all external spend.
Emissions factor references	» GHG Protocol Technical Guidance for Calculating scope 3 Emissions (v1): Supplement to the Corporate Value Chain scope 3) Accounting and Reporting Standard; WRI/WBCSD; 2013; **https://ghgprotocol.org/scope-3-technical-calculation-guidance** » National Greenhouse Accounts Factors: Australian National Greenhouse Accounts, October 2020; Australian Government Department of Industry, Science, Energy and Resources; 2020; **https://www.industry.gov.au/sites/default/files/2020-10/national-greenhouse-accounts-factors-2020.pdf** » EcoInvent (licenced database) **ecoinvent.org** » Wood, S. & Cowie, Annette. (2004). A Review of Greenhouse Gas Emission Factors for Fertiliser Production; **https://www.researchgate.net/figure/Greenhouse-Gas-Emission-Factors-for-Phosphate-Fertilisers_tbl4_235704822**
CATEGORY 2: CAPITAL GOODS	
Category description	Upstream (i.e. cradle-to-gate) emissions from the extraction, production and transportation of capital goods purchased or acquired by the reporting company in the reporting year.
Calculation status	Not material. Not calculated.
Explanation	Based on industry intensity factors applied to IPL's annual capital goods expenditure, emissions from this category are not considered to be material.
CATEGORY 3: FUEL AND ENERGY RELATED ACTIVITIES	
Category description	Emissions related to the extraction, production and transportation of fuels and energy purchased or acquired by the reporting company in the reporting year, not already accounted for in scope 1 or scope 2.
Calculation status	Material. Calculated.
Calculation boundary	This category covers emissions arising from the extraction, production and delivery of fuels, including diesel, gasoline, LPG, greases, oils and lubricants, and electricity purchased by the operations over which IPL has operational control. Due to IPL's use of natural gas as both an energy source and a feedstock for hydrogen to make ammonia, the emissions associated with the upstream extraction, processing and pipeline delivery of natural and coal seam gas, including fugitive emissions, are material contributors to this category.
Exclusions	None.
Calculation methodology	Total energy and fuels purchased (volumes) have been multiplied by a scope 3 emission factor specific to each fuel.
Data sources	For natural gas (GJ) and electricity (kWh) purchased, data is collected from invoices. For all other fuels, 'annual volumes purchased' data is extracted from the IPL internal system that tracks all external spend.
Emissions factor references	» GHG Protocol Technical Guidance for Calculating scope 3 Emissions (v1): Supplement to the Corporate Value Chain (scope 3) Accounting and Reporting Standard; WRI/WBCSD; 2013; **https://ghgprotocol.org/scope-3-technical-calculation-guidance** » National Greenhouse Accounts Factors: Australian National Greenhouse Accounts, October 2020; Australian Government Department of Industry, Science, Energy and Resources; 2020; **https://www.dcceew.gov.au/sites/default/files/documents/national-greenhouse-accounts-factors-2020.pdf** » National Inventory Report 2018, Volume 1; Australian Government Department of Industry, Science, Energy and Resources; 2020; **https://www.industry.gov.au/sites/default/files/2020-05/nga-national-inventory-report-2018-volume-1.pdf** » eGRID Summary Tables, Table 1 'Non-baseload output emission rates'. USEPA; **https://www.epa.gov/sites/default/files/2021-02/documents/egrid2019_summary_tables.pdf** » The Emissions and generation Resource Integrated Data Base eGRID Technical Guide, USEPA; **https://www.epa.gov/system/files/documents/2022-01/egrid2020_technical_guide.pdf** » BEIS Greenhouse gas reporting: Conversion factors 2021: full set (for advanced users) – revised January 2022, Tab WTT-Fuels; Department for Business, Energy & Industrial Strategy, UK Government. **https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021**
CATEGORY 4: UPSTREAM TRANSPORTATION AND DISTRIBUTION	
Category description	Emissions from the transportation and distribution of products purchased by the reporting company in the reporting year between a company's Tier 1 suppliers and its own operations (in vehicles and facilities not owned or controlled by the reporting company); transportation and distribution services purchased by the reporting company in the reporting year, including inbound logistics, outbound logistics (e.g. of sold products); and transportation and distribution between a company's own facilities (in vehicles and facilities not owned or controlled by the reporting company).
Calculation status	Not material. Calculated.
Calculation boundary	This category includes the scope 3 emissions associated with the shipping, rail and trucking of our purchased goods from Tier 1 suppliers by third parties. It should be noted that natural gas used as feedstock for the chemical manufacture of ammonia is delivered via pipeline – scope 3 emissions associated with the delivery of this raw material are reported under Category 3.
Exclusions	None.

SCOPE 3 STANDARD EMISSIONS CALCULATION ASPECT	IPL METHODOLOGY
Calculation methodology	For marine cargoes to and around Australia, RightShip – a leading maritime risk management and environmental assessment organisation – provided an accurate scope 3 emissions estimate based on its EN16258:2012 certified methodology. For marine cargoes associated with our subsidiary Quantum Fertilisers, and for road and rail freight, the 'distance-based' method as described in the scope 3 Guidance was used: emissions were calculated by applying the appropriate emissions factor to the 'mass x distance' multiplier for each mode of transport.
Data sources	Tonnes shipped and transported by road and rail were collected from a range of sources including the IPL internal system that tracks all external spend, internal logistics support software and third party reports from logistics suppliers such as RightShip and several road transport contractors. Activity data from external service providers are converted to net tonne kilometres for rail, road and shipping, and the appropriate emissions factor was applied (see references below).
Emissions factor references	» RightShip Carbon Accounting; **https://www.rightship.com/solutions/shipowner/ghg-rating/** » GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (v1): Supplement to the Corporate Value Chain (Scope 3) Accounting and Reporting Standard; WRI/WBCSD; 2013; **https://ghgprotocol.org/scope-3-technical-calculation-guidance** » BEIS Greenhouse gas reporting: Conversion factors 2021: full set (for advanced users) – revised January 2022, Tab Freighting goods + WTT delivery vehs & freight; Department for Business, Energy & Industrial Strategy, UK Government. **https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021**
CATEGORY 5: WASTE GENERATED IN OPERATIONS	
Category description	Emissions from third-party disposal and treatment (in facilities not owned or controlled by the reporting company) of waste generated in the reporting company's operations in the reporting year.
Calculation status	Not material. Calculated.
Calculation boundary	This category includes scope 3 emissions associated with all of the waste generated by the operations over which IPL has operational control.
Exclusions	None.
Calculation methodology	For wastes generated by our Australian sites, the supplier-specific method was used, whereby a national waste contractor supplied waste-specific emissions factors. For wastes in Australia disposed of by other waste contractors, and for sites outside of Australia, the average-data method was used. This involves estimating emissions based on total tonnes waste going to each disposal method (e.g. landfill) multiplied by an average emission factor for each disposal method.
Data sources	Annual reports from Australian waste management provider; the internal SAI Global data base used by IPL to collect and manage data associated with monthly site reports on energy use, water use and waste; relevant emissions factors (see references below).
Emissions factor references	» GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (v1): Supplement to the Corporate Value Chain (Scope 3) Accounting and Reporting Standard; WRI/WBCSD; 2013; **https://ghgprotocol.org/scope-3-technical-calculation-guidance** » National Greenhouse Accounts Factors: Australian National Greenhouse Accounts, October 2020; Australian Government Department of Industry, Science, Energy and Resources; 2020; **https://www.industry.gov.au/sites/default/files/2020-10/national-greenhouse-accounts-factors-2020.pdf** » BEIS Greenhouse gas reporting: Conversion factors 2021: full set (for advanced users) – revised January 2022, Tab Waste Disposal; Department for Business, Energy & Industrial Strategy, UK Government. **https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021** » EcoInvent (licenced database) **ecoinvent.org**

SCOPE 3 STANDARD EMISSIONS CALCULATION ASPECT	IPL METHODOLOGY
CATEGORY 6: BUSINESS TRAVEL	
Category description	Emissions from the transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated by the reporting company).
Calculation status	Not material. Calculated.
Calculation boundary	This category includes flights and accommodation taken by employees for business-related activities, and travel outside of Australia in vehicles not owned or operated by IPL. Emissions associated with employee travel by hire car within Australia are defined as being under IPL employee operational control under Australian National Greenhouse and Energy Reporting legislation, and are therefore calculated and reported as scope 1 emissions.
Calculation methodology	Estimate based on peer extrapolation. The methodology for Business Travel was developed by assessing these scope 3 categories from three of IPL's peers. Emissions figures were extracted from sustainability reports and/or CDP reporting. The average was determined for tCO_2e/employee for each category across these peers. This was then multiplied by IPL's employee numbers for the relevant years.
Data sources	Peer Sustainability reports/CDP responses.
Emissions factor references	No emissions factors were used to derive the GHG in this category. Rather, the total GHG were estimated based on peer extrapolation.
CATEGORY 7: EMPLOYEE COMMUTING	
Category description	Emissions from the transportation of employees between their homes and their worksites during the reporting year (in vehicles not owned or operated by the reporting company).
Calculation status	Not material. Calculated.
Calculation methodology	Estimate based on peer extrapolation. The methodology for Employee Commuting was developed by assessing these scope 3 categories from three of IPL's peers. Emissions figures were extracted from sustainability reports and/or CDP reporting. The average was determined for tCO_2e/employee for each category across these peers. This was then multiplied by IPL's employee numbers for the relevant years.
Data sources	Peer Sustainability reports/CDP responses.
Emissions factor references	No emissions factors were used to drive the GHG in this category. Rather, the total GHG were estimated based on peer extrapolation.
CATEGORY 8: UPSTREAM LEASED ASSETS	
Category description	Emissions from the operation of assets leased by the reporting company (lessee) in the reporting year and not included in scope 1 and scope 2 reported by lessee.
Calculation status	Not relevant. Not calculated.
Explanation	IPL has very few upstream leased assets. In Australia, where properties are leased and electricity use is included in the lease (rather than invoiced directly to IPL) an estimate of electricity use is made in accordance with the National Greenhouse and Energy Reporting legislation, ensuring that this energy use is included in IPL's scope 2 emissions.
CATEGORY 9: DOWNSTREAM TRANSPORTATION AND DISTRIBUTION	
Category description	Emissions from transportation and distribution of products sold by the reporting company in the reporting year between the reporting company's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company).
Calculation status	Not material. Calculated – included in Category 4.
Calculation boundary	This category includes emissions associated with the transport of products sold by IPL in vehicles not owned or controlled by IPL. Due to the nature of shipping, in which a single voyage may include delivery of a supplier's product to a port for unloading to an IPL facility, then also loading product manufactured by IPL for distribution to ports further along the voyage in addition to purchased product, Category 9 emissions are included in Category 4 calculations.
Exclusions	» Emissions associated with third party road delivery of fertilisers (from ports and IPL distribution facilities to third party distributors and farming customers) have not been included due to unavailability of data. » Emissions associated with storage at third party distributors have not been included due unavailability of data.

SCOPE 3 STANDARD EMISSIONS CALCULATION ASPECT	IPL METHODOLOGY
CATEGORY 10: PROCESSING OF SOLD PRODUCTS	
Category description	Emissions from the processing of intermediate products sold in the reporting year by downstream companies (e.g. manufacturers) subsequent to sale by the reporting company.
Calculation status	Not material. Not calculated.
Explanation	IPL primarily manufactures and supplies fertilisers and explosives which are typically consumed during their use by the customer.
Exclusions	» IPL sells some industrial chemicals which may be used in the manufacture of other products, however data has not been obtained to calculate any emissions which may arise if, and where, this occurs. » IPL sells approximately 27% of its manufactured ammonia for 'industrial use'. This may be used in the manufacture of other products, however data has not been obtained to calculate any emissions which may arise if, and where, this occurs.
CATEGORY 11: USE OF SOLD PRODUCTS	
Category description	Emissions from the end use of goods and services sold by the reporting company in the reporting year.
Calculation status	Material. Calculated.
Calculation boundary	This category includes the calculation of scope 3 emissions associated with the end use of fertilisers, explosives and industrial chemicals sold by IPL, whether the end user is a direct customer or, in the case of some fertilisers, the customer of a third party distributor. This category is a material source of emissions in IPL's value chain.
Calculation methodology	The scope 3 emissions associated with customer use of IPL's products are Direct Use-Phase Emissions: products that contain or form greenhouse gases that are emitted during use, as defined in the scope 3 Guidance. Tonnes sold of each product were obtained and a product-specific scope 3 emissions factor was applied (see 'References' below).
Data sources	Tonnes sold are sourced from the IPL internal system that tracks IPL's sales. Fertiliser application volumes are estimated by end market and geography, based on IPL sales data.
Emissions factor references	» GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (v1): Supplement to the Corporate Value Chain (Scope 3) Accounting and Reporting Standard; WRI/WBCSD; 2013; **https://ghgprotocol.org/scope-3-technical-calculation-guidance** » National Inventory Report 2018, Volume 1; Australian Government Department of Industry, Science, Energy & Resources; 2020; **https://www.industry.gov.au/sites/default/files/2020-05/nga-national-inventory-report-2018-volume-1.pdf** » 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4: Agriculture, Forestry and Other Land Use, Chapter 11: N_2O Emissions From Managed Soils, and CO_2 Emissions From Lime And Urea Application; **https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch11_Soils_N2O_CO2.pdf** » Gokul Prasad Mathivanan, et al. "New N2o Emission Factors for Crop Residues and Fertiliser Inputs to Agricultural Soils In Germany." Agriculture, ecosystems & environment, v. 322 ,. pp. 107640. doi: 10.1016/j.agee.2021.107640107640; **https://pubag.nal.usda.gov/catalog/7499559**
CATEGORY 12: END-OF-LIFE TREATMENT OF SOLD PRODUCTS	
Category description	Emissions from the waste disposal and treatment of products sold by the reporting company in the reporting year at the end of their life.
Calculation status	Not relevant.
Explanation	IPL manufactures and sells fertilisers and explosives which are typically consumed during their use by the customer.

SCOPE 3 STANDARD EMISSIONS CALCULATION ASPECT	IPL METHODOLOGY
CATEGORY 13: DOWNSTREAM LEASED ASSETS	
Category description	Emissions from the operation of assets owned by the reporting company (lessor) and leased to other entities in the reporting year, not included in scope 1 and scope 2 reported by lessor.
Calculation status	Not relevant.
Explanation	Leasing of downstream assets is not a material part of IPL's business.
CATEGORY 14: FRANCHISES	
Category description	Emissions from the operation of franchises in the reporting year, not included in scope 1&2 reported by franchisor.
Calculation status	Not relevant.
Explanation	IPL does not have franchised operations.
CATEGORY 15: INVESTMENT	
Category description	Emissions associated with the operation of the reporting company's investments (including equity and debt investments and project finance) in the reporting year, not already included in scope 1 or scope 2.
Calculation status	Not material. Calculated.
Calculation boundary	This category includes the scope 1&2 emissions (on an equity basis) from our assets that are owned as a joint venture but not operated by IPL. The scope 3 Standard categorises this as a downstream category as the provision of capital or financing is framed as a service provided by IPL.
Exclusions	Only joint ventures engaged in emissions-intensive manufacturing activities have been included in the calculation of emissions from this category.
Calculation methodology	The accounting approach for 'equity investments' as described in the scope 3 Guidance is used to calculate these emissions.
Data sources	Estimates of scope 1&2 emissions for each investment (which form the basis of scope 3 emissions in IPL's value chain) are sourced from publicly available information, including the most recently available government-published data from mandatory or voluntary reporting programs in place in the country, state or region; the most recent reports published by the operating entity e.g. sustainability and annual reports; and other sources if identified through desktop research.
Emissions factor references	» GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (v1): Supplement to the Corporate Value Chain (Scope 3) Accounting and Reporting Standard; WRI/WBCSD; 2013; **https://ghgprotocol.org/scope-3-technical-calculation-guidance**

5. Membership and climate review of industry associations

IPL is a member of a range of industry associations, both at the Group level and through our industry-leading businesses Incitec Pivot Fertilisers and Dyno Nobel. Industry associations provide the opportunity to collaborate with other companies and organisations to share best practice across the sectors in which our businesses operate. Sharing knowledge on issues such as technical standards, industry-wide regulations and our number-one priority – safety, helps us to become better informed on a wide range of issues that directly impact our businesses, our employees and our customers.

Since industry associations represent a collective group, an industry association's position on a given topic will incorporate a range of members' views. In some cases, this may result in associations holding no position on that topic, or holding a position which may differ to the position held by IPL. For this reason, we communicate our own views through our policies and public statements, including those made in published submissions and executive speeches.

Each year IPL commissions an independent review of the alignment between our climate change policies and those of the industry associations of which we are a member. These annual reviews form part of our ongoing industry association monitoring activities. Following feedback from stakeholders regarding our method of review, this year IPL has introduced a new method that we believe will cater to those important stakeholders and provide transparency for our shareholders.

As part of the 2023 review, IPL formalised a framework for governance of our memberships of associations, including guidance where a difference in publicly stated climate change policy has been identified. This enables an open dialogue between IPL and the industry association, including an exchange of information on any identified difference.

In 2023, the review assessed the alignment between IPL and the energy and climate change positions of 19 Member Associations in the following areas:

- **The Paris Agreement**
- **Climate Change Policy** including:
  1. a Net Zero target and interim emissions reduction targets;
  2. an understanding that climate change may impact on core business offerings (including product portfolio);
  3. a stated commitment to partner with stakeholders (including regulators) to promote climate action;
  4. programs to engender 'resilience' or 'adaptation' to climate impacts for its business and stakeholders; and
  5. Consideration of climate risk in policy or position statements.
- **Energy Policy,** including supportive statements for renewable energy deployment and investment into the expansion of renewable and reliable energy sources

ASSOCIATIONS WERE RATED AS FOLLOWS:

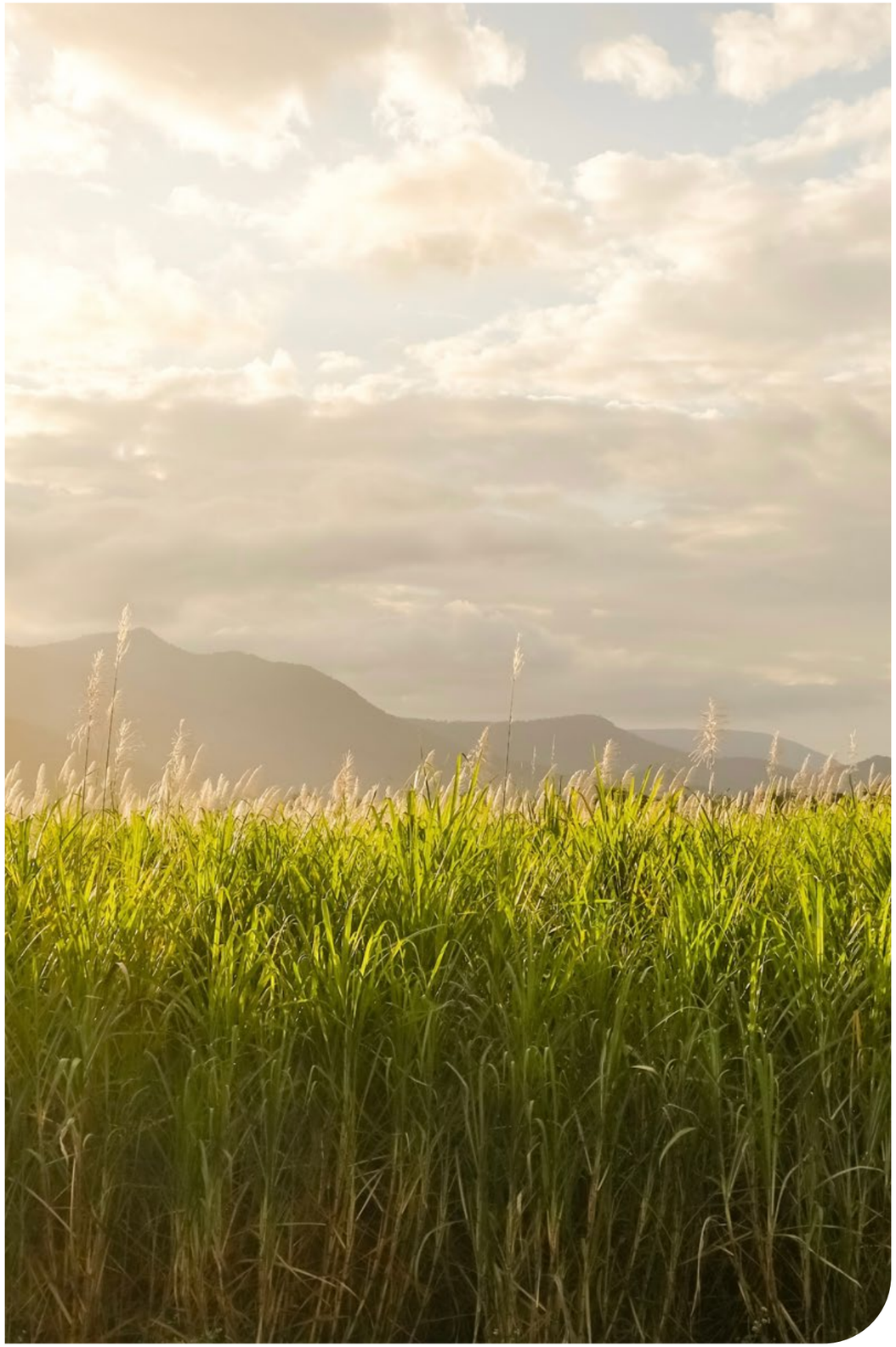
- ● The association's position is in line with IPL's, or is more progressive than IPL's. The association has publicly disclosed climate-related positions in line with expectations of leading practice organisations.
- ◕ The association has a climate change policy and the disclosures made by the association align with IPL's on most key topics. The association's position does not fully align with IPL's but is also not contrary to IPL's stated position, or IPL's position is more progressive than the association.
- ◑ The association does not have a climate change policy, but its disclosures align with IPL's on most key topics. The association's position does not fully align with IPL's but is also not contrary to IPL's stated position, or IPL's position is more progressive than the association.
- ◔ Disclosures made by the association demonstrate only a high-level climate change risk acknowledgment, however the position does not contradict that of IPL's.
- ○ The association does not have a position on climate change. Disclosures made by the association are supportive of the continued use of coal. While sub-disclosures may align to IPL's, there is a misalignment to IPL's overarching climate change policy.
- □ Disclosures made by the association are supportive of the continued use of coal. While sub-disclosures may align to IPL's, there is a misalignment to IPL's overarching climate change policy.

INDUSTRY ASSOCIATION	DESCRIPTION	ALIGNMENT WITH IPL ON CLIMATE CHANGE	
Ammonium Nitrate Nitric Acid Producers Group (ANNA)	ANNA is an informal international organisation of manufacturers of ammonium nitrate and nitric acid with the goal of promoting networking within the industry through sharing knowledge, technology and experience. Dyno Nobel is a member.	ANNA does not have a publicly disclosed position or policy in relation to climate change. This position has not changed in 2023.	○
Australian Explosives Industry and Safety Group (AEISG)	AEISG aims to continuously improve the level of safety in the manufacture, transport, storage, handling and use of precursors and explosives in commercial blasting throughout Australia. Dyno Nobel is a member.	AEISG does not have a publicly disclosed position or policy in relation to climate change. This position has not changed in 2023.	○
Australian Industry Greenhouse Network (AIGN)	AIGN is a network of industry associations and individual businesses which contribute to the climate change policy debate and see value in joint industry action on climate change in order to promote sustainable industry development. The network is committed to industry collaboration on equitable global action to reduce greenhouse gas emissions.	AIGN is aligned with IPL in its commitments to address climate change. AIGN acknowledges climate change and supports policies to help Australia adapt to it. AIGN and its members are actively involved in monitoring and participating in climate change policy discussions, with the goal of promoting the development of Australia's industrial resources. AIGN serves as a focal point for cooperative industry policy responses to key greenhouse issues, and it plays a facilitating and coordinating role in industry contributions to key greenhouse policy and abatement measures.	●
B-team Climate Leaders Coalition (CLC)	The CLC is a cross-sectoral group of Australian corporate CEOs supporting the Paris Agreement commitments and setting public decarbonisation targets. The CLC website states that its members are action orientated and commit their organisations to take voluntary action on climate change.	B-team Climate Leaders Coalition has remained closely aligned with IPL in its energy and climate change positioning during 2023. CLC publicly support the Paris Agreement and Australia's commitment to it, including the objective to keep global warming to well below 2 degrees above pre-industrial levels. The CLC is also advocating for policies that support the transition to a low carbon economy. The CLC's members are united in their commitment to reducing GHG emissions and are working together to develop and implement plans to achieve their GHG reduction targets.	●
Business Council of Australia (BCA)	The BCA provides a forum for Australian business leaders to contribute directly to public policy debates. Members determine the work program and policy positions of the Council through their participation in policy committees, special-issue taskforces and the BCA Board.	BCA's position on climate change and energy is closely aligned with IPL's. In 2021, BCA publicly committed to supporting Australia's commitments under the Paris Agreement. It publicly calls for stronger policy commitments relating to both GHG reduction and greenhouse and energy reporting. A BCA paper released in 2023 proposes a comprehensive target setting framework that takes into consideration domestic, international, economic and non-economic matters and calls for decarbonisation pathways for all sectors of the economy.	●
Canadian Explosives Industry Association (CEAEC)	CEAEC is an industry association concerned with the promotion of high standards in the manufacturing, use, transportation and handling of explosives in the interest of worker and public safety. Dyno Nobel is a member.	CEAEC does not have a public position on energy policy and climate change. This position has not changed in 2023.	○
Carbon Market Institute (CMI)	CMI is an independent industry body seeking to: share knowledge, build capacity and catalyse opportunities for businesses leading the transition to a Net Zero emissions economy; steward Australia's carbon markets and related policies; and champion the UNFCCC Paris Agreement and TCFD framework of climate and Net Zero emission goals.	CMI's position on climate change and energy is closely aligned with IPL's. CMI is publicly supportive of the Paris Agreement and the emerging framework of climate and net-zero emissions goals and mechanisms for increasing ambition, internal cooperation and investment. CMI's 2020 Strategy and 2021 Policy Advocacy Position Statement remain key public documents which highlight CMI's position on energy and climate change which has not changed since the last review in 2022. At the end of 2022, CMI published a 2025 Strategy titled 'Accelerating climate action', which aims to enhance business investment in response to the climate and biodiversity crises. It also calls for reinforcement of public policy and private investment to keep the 1.5°C goal alive.	●

INDUSTRY ASSOCIATION	DESCRIPTION	ALIGNMENT WITH IPL ON CLIMATE CHANGE	
Chemistry Australia	The national body representing Australia's chemistry industry, CA aims to foster a dynamic, globally competitive and highly valued Australian chemistry industry through exceptional advocacy, fostering innovative collaborations and supporting continuous improvement.	CA's policy positions are in line with IPL's. Chemistry Australia supports coordinated global action to mitigate the impacts of climate change. In its 2020 Policy Priorities, Chemistry Australia takes the stance that climate change policy should strike the right balance between meeting our Paris Agreement commitments and ensuring continued industry investment and jobs growth to underpin our sovereign capability. It also advocates for Australia to prioritise emissions reduction in the built environment by building more energy efficient dwellings and buildings.	
Energy Users Association of Australia (EUAA)	The Energy Users Association of Australia plays a critical role in helping companies navigate uncertainty in energy markets and participate in driving changes in market rules and the way the network is managed, to ensure better outcomes and reduced costs for energy users. It seeks a competitive, reliable and sustainable energy supply for all users.	EUAA's climate change policy positions are in line with those of IPL after updates in 2022. The EUAA's Net Zero Position supports the Paris Agreement, specifically in limiting global temperature rise this century to below 2°C, and thus action towards a Net Zero target by 2050. It advocates for policies that support innovation of new technologies and quality offsets where abatement is not possible. The EUAA publicly supports a market-based mechanism that puts a price on carbon and maintains its position on the Australian Federal Renewable Energy Target (RET). It calls for opportunities for low emissions manufacturing, acceleration of clean fuel such as green hydrogen and support for other clean energy innovation and support services for hard-to-abate sectors. This position has not changed since the last review in 2022.	
Fertilizer Australia	The industry association representing manufacturers, importers and distributors of fertiliser in Australia, and associated service industries. Fertiliser Australia members supply over 95% of the fertilisers used in Australia. IPL holds a Board position.	Fertiliser Australia does not promote a policy which contradicts that of IPL. Within its Sustainability and Stewardship report published in 2020, it acknowledges fertilisers' contribution to global warming through GHG released during the manufacturing process, transport and logistics, and also that the role of fertilisers in crop growth can assist carbon storage. Fertiliser Australia does not have a strong public position on energy or climate policy. This position has not changed in 2023.	
Institute of Makers of Explosives (IME)	An association concerned with the safety and security of the commercial explosives industry in the United States and Canada. Dyno Nobel is a member.	IME's views are considered less progressive than those of IPL due to the support of coal. The IME support an 'all-of-the-above' energy policy, which includes traditional sources of energy like coal, oil and natural gas as well as renewable sources such as wind and geothermal energy.	
International Fertilizer Association (IFA)	A not-for-profit organisation that represents the global fertiliser industry. IFA member companies represent all activities related to the production, trade, transport and distribution of the nutrients required to help farmers worldwide address the growing need for food, feed, fibre and bio energy. IPL holds a Board position.	IFA does not promote a policy which contradicts that of IPL. IFA considers reducing GHG an essential part of its overall mission to help feed the world sustainably. In its report 'Reducing Emissions From Fertilizer Use', published in September 2022, IFA states that failing to reduce GHG in a timely manner carries significant risks and may destabilise food production systems. IFA does not have a clear Energy Policy position however it is a strong advocate for the role that Carbon Sequestration can play in mitigating climate impacts. IFA focuses on sustainable fertiliser production and has formed a new sustainability working group with a mission to accelerate sustainable fertiliser manufacturing.	
International Society of Explosives Engineers (ISEE)	A professional society dedicated to promoting the safety, security and controlled use of explosives. Dyno Nobel is a member.	The ISEE does not have a publicly disclosed position or policy in relation to climate change. This position has not changed in 2023.	

INDUSTRY ASSOCIATION	DESCRIPTION	ALIGNMENT WITH IPL ON CLIMATE CHANGE	
Manufacturing Australia (MA)	A CEO-led coalition of some of Australia's largest manufacturers that work with governments, businesses and communities to promote Australia's manufacturing sector to make a significant and sustainable contribution to the nation's economy. IPL holds a Board position.	MA's policy positions do not typically contradict IPL's. However, MA does not have a standing climate policy or position, making it less progressive than IPL. MA does not have an energy policy but one of its listed priorities is to 'Regain Australia's competitive advantage of reliable, affordable and sustainable energy resources, and ensuring Australia meets its international emissions obligations while remaining globally competitive in trade exposed industries'. In October 2021, MA publicly announced its support for the Australian Government's commitment to Net Zero by 2050 and signalled opportunities to assist, citing scaling up and reducing the cost of low emissions manufacturing technology and clean electricity as key hurdles for the manufacturing industry in this transition; this position has not changed in 2023.	
Minerals Council of Australia (MCA)	Represents Australia's exploration, mining and minerals processing industry, nationally and internationally, in its contribution to sustainable development and society. MCA member companies produce more than 85% of Australia's annual mineral output. Dyno Nobel is a member.	MCA publishes an annual progress report to their Climate Action Plan released in 2020. In their 2022 Progress Report, MCA reported its continued commitment to the Paris Agreement and its goal of Net Zero emissions by 2050. However, it continues to advocate for the use of coal whilst also advocating against scope 3 legislative reforms, indicating its views are less progressive than IPL. This position has not changed in 2023.	
National Mining Association (NMA)	The voice of the American mining industry in Washington, D.C., NMA is the only national trade organisation which represents the interests of mining before Congress, the Administration, federal agencies, the judiciary and the media. Dyno Nobel is a member.	The NMA recognises that mining is an energy-intensive industry, and that global action is needed to reduce GHG and help mitigate the adverse effects of human impacts on climate change. The NMA has recently published a position on Climate Change, but its views can still be considered less progressive than those of IPL due to continued support of thermal coal.	
The National Sand, Stone and Gravel Association (NSSGA)	An association for the aggregates industry in the US, concerned with supporting policies and regulation that promote the safe and environmentally responsible use of aggregates. Dyno Nobel is a member.	The NSSGA's policy positions do not typically contradict IPL's; however, it does not have a standing climate policy or position. The NSSGA supports investment into the expansion of renewable and reliable energy sources. It encourages GHG emissions reduction for NSSGA members and provides them with a GHG emissions calculator in order to reduce their footprint. This position has not changed in 2023.	
Queensland Resources Council (QRC)	An independent not-for-profit peak industry association representing the commercial developers of Queensland's mineral and energy resources. The QRC works to secure an environment conducive to the long-term sustainability of the minerals and energy sectors in Queensland, Australia. Dyno Nobel is a member.	QRC's policy positions do not typically contradict those of IPL. QRC supports the Paris Agreement and its GHG reduction goals to limit global warming to well below 2, preferably to 1.5 degrees Celsius. QRC also publicly supports the Minerals Council of Australia's industry ambition to achieve Net Zero emissions by 2050. In its 2022 Energy and Climate Policy, QRC outlines support for the diversification of Queensland's energy mix and supports a technology-driven approach to reach GHG reduction targets. This position has not changed in 2023.	
World Coal Association (WCA)	A global industry association comprising the major international coal producers and stakeholders. Dyno Nobel holds a Board position.	The WCA recognises the objectives of the Paris Agreement to limit global average temperature increases to well below 2°C, and pursuing efforts to limit the increase to 1.5°C, and publicly supports the role of carbon capture and storage technology to reduce GHG emissions. However, it advocates for clean coal technologies rather than supporting a transition away from coal to renewables.	
The Australian Mines and Metals Association Resources and Energy Group	The Australian Mines and Metals Association Resources and Energy Group is the representative association for Australia's resources, energy and supply industry employers, assisting with human resources, industrial relations, training, policy and industry networking. Dyno Nobel is a member.	Not included in review.	

INDUSTRY ASSOCIATION	DESCRIPTION	ALIGNMENT WITH IPL ON CLIMATE CHANGE
American Chamber of Commerce in Australia (AmCham)	AmCham gives members exclusive access to thought leadership, communities of interest, policy advice, business advocacy, information, and relationships with business and government. With roots in America, AmCham serves the business community across Australia and the entire Asia Pacific, providing assistance to companies in the USA and Australia and promoting trade, commerce and investment to and from Australia.	Not included in review.
American Australian Business Council (AABC)	The AABC aims to strengthen the dynamic economic bond between Australia and the United States, founded on a commitment to commerce through the flow of capital, people and ideas, by highlighting the businesses and their leaders who are key to this relationship.	Not included in review.
Chief Executive Women (CEW)	Representing over 500 of Australia's most senior and distinguished women leaders, CEW strives to educate and influence all levels of Australian business and government on the importance of gender balance through advocacy, targeted programs and scholarships.	Not included in review.
National Association of Women in Operations (NAWO)	NAWO is the peak Australian body championing women in operations. An incorporated not-for-profit association, NAWO aims to inspire and support women to reach their full potential and achieve their chosen career goals, and to inspire and support organisations to create inclusive workplaces.	Not included in review.
Resource Industry Network	A peak industry association representing companies engaged in the resource sector and those allied to the sector. It seeks to facilitate effective member-to-member connections, develop and promote innovation and capability, and promote members to the commercial decision makers, peak bodies and government representatives in the resource sector. Dyno Nobel is a member.	Not included in review.
The Fertilizer Institute	The trade association representing the public policy, communication and statistical needs of producers, manufacturers, retailers and transporters of fertiliser in the US. Issues of interest include security, international trade, energy, transportation, the environment, worker health and safety and farm bill and conservation programs to promote the use of enhanced efficiency fertiliser. Dyno Nobel Americas is a member.	Not included in review.
Global Explosives Safety Group (SAFEX)	A non-profit organisation of manufacturers of explosives and pyrotechnics which aims to protect people and property against dangers and damage by the sharing of experience in the explosives industry. Dyno Nobel is a member.	Not included in review.



6. Forward looking statements

This Report contains forward looking statements, including, but not limited to: statements regarding trends in commodity prices and supply and demand for commodities; assumed long-term scenarios; potential global responses to climate change; regulatory and policy developments; the development of certain technologies; the potential effect of possible future events on IPL and the plans, strategies and objectives of the organisation. Forward looking statements may be identified by the use of terminology, including, but not limited to, 'intend', 'aim', 'project', 'see', 'anticipate', 'expect', 'estimate', 'plan', 'objective', 'believe', 'may', 'should', 'will', 'would', 'continue', or similar words. These statements refer to future results, asset conditions or financial conditions, or provide other forward looking information. The forward looking statements in this Report are based on the information available as at the date of this Report and/or the date of the Group's planning processes or scenario analysis processes.

There are inherent limitations with the use of forward looking statements and in particular where they relate to scenario analysis, and it is difficult to predict which, if any, of the scenarios might eventuate. Scenarios do not constitute definitive outcomes for IPL. Scenario analysis relies on a range of assumptions that may or may not be, or prove to be, correct and may or may not eventuate, and scenarios may be impacted by additional factors to the assumptions disclosed. Additionally, forward looking statements are not guarantees or predictions of future performance, and involve known and unknown risks, uncertainties and other factors, many of which are beyond our control, and which may cause actual results to differ materially from those expressed in the statements contained in this Report. IPL cautions against reliance on any forward looking statements or guidance.

To the extent permissible by law, IPL disclaims all liability to any third party who uses or relies on any forward looking statements or guidance in this report. For example, future decarbonisation opportunities identified and described in this Report will be based, in part, upon the availability and reliability of alternative and developing technologies, and incentives and support from government bodies and the industry, which may differ from assumptions, estimates and forecasts. These variations may affect the timing or the feasibility of the development of a particular technology or project, and their subsequent adoption and use by IPL or the broader industry more generally.

Except as required by applicable regulations or by law, IPL does not undertake any obligation to publicly update or review any forward looking statements, whether as a result of new information or future events. Forward looking statements are current only as at the earlier of the date of this Report or the date the planning process assumptions or scenario analysis assumptions were adopted, as relevant and applicable. Past performance cannot be relied on as a guide to future performance.

The views expressed in this Report contain information that has been derived from publicly available sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information. This Report should not be relied upon as a recommendation or forecast by IPL.