Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C0.1

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

Incitec Pivot Limited (IPL) is a global diversified industrial chemicals company that supplies explosives, industrial chemicals, fertilisers and related services to the mining, infrastructure & construction, chemicals and agriculture industries. IPL has extensive operations throughout Australia, the United States, Canada, Mexico, Turkey and Indonesia, including over 30 manufacturing plants, scores of distribution centres and well-established channels to market. The Company employs over 4,800 staff worldwide, including almost 2,000 staff in Australia and over 2,400 staff in North America.

IPL manufactures a range of explosives and fertiliser inputs and products globally. Through the Dyno Nobel brand, IPL is the second largest supplier of explosives in Australia and is a market leader in North America. Dyno Nobel branded products include a complete range of commercial explosives including ammonium nitrate, bulk explosives, packaged emulsions and dynamite as well as a range of initiating systems. Services provided include expert technical consulting to customers such as mining companies and their suppliers, quarries and companies supporting the construction industry. In addition, IPL manufactures various industrial chemical products used in water treatment, process manufacturing and other industrial applications. Through the Incitec Pivot Fertilisers brand (IPF) IPL is Australia's largest supplier of fertilisers, dispatching approximately two million tonnes each year for use in the grain, cotton, pasture, dairy, sugar and horticulture industries. Products including ammonium phosphates, ammonia, urea, sulphuric acid and superphosphates are manufactured at five manufacturing sites across eastern Australia and IPL is the only manufacturer of ammonium phosphates and urea in Australia. IPF supplies fertiliser through a comprehensive network of distributors who supply the product to Australian farmers. IPL has a long-term commitment to investment in soil nutrition research and its Nutrient Advantage laboratory is industry accredited. As a leading provider of nutrition advice to farmers and customers, IPL promotes the sustainable use and safe handling of its fertiliser products to customers and farmers.

Due to the energy intensive nature of the manufacture of the nitrogen-based fertiliser and explosives products IPL supplies, 97% of the Company's global Scope 1 and 2 greenhouse gas (GHG) emissions are from the manufacture of these products. Natural gas is used as both a

feedstock for making hydrogen and as an energy source, with 38% of global GHG in this reporting year arising from the use of natural gas as a feedstock, and 31% from the use of natural gas use for energy to drive the chemical manufacturing process. 16% of IPL's global GHG were process emissions of N2O arising from the manufacture of nitric acid, which is then used for the on-site manufacture of IPL's ammonium nitrate explosive products. 8% of the Company's emissions are from the purchase of electricity (Scope 2 emissions) and 4% are from the use of natural gas to generate electricity on IPL sites, which is used for manufacturing activities.

During this reporting period, which is the 2020 IPL Financial Year (ending September 30, 2020) the IPL Decarbonisation and Energy Transition Steering Committee was formed to map IPL's Pathway to Net Zero Emissions. The strategy being applied includes three 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/Use, N2O abatement technologies, renewable electricity and other alternate feedstocks.

2. The ongoing assessment of the technical and commercial readiness of each of these technologies at the scale required to decarbonise IPL's manufacturing facilities, including an assessment of materiality & 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 & technology partners.

3. The prioritisation of appropriate technologies and project development through feasibility studies such as IPL's AU$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.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Reporting year	October 1, 2019	September 30, 2020	No

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Australia
Canada
Mexico
Turkey
United States of America

C0.4

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

AUD

C0.5

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

Operational control

C-CH0.7

(C-CH0.7) Which part of the chemicals value chain does your organization operate in?

Row 1

Bulk organic chemicals

Bulk inorganic chemicals

Ammonia
Fertilizers
Nitric acid

Other chemicals

Other, please specify
Ammonium nitrate (explosives)

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	The CEO is a Board Member and Chair of the IPL Decarbonisation and Energy Transition (DET) Steering Committee, which comprises selected executives and other senior management. The CEO and the DET Steering Committee are responsible for the development of the Company's Net Zero Pathway and the strategic management of business risks and opportunities related to climate change, including the incorporation of opportunities into business strategy. During the reporting period, the CEO (and Board) set/approved IPL's first absolute global GHG reduction target of 5% by 2026 against a 2020 baseline.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Overseeing major capital expenditures, acquisitions and divestitures	The IPL Climate Change Policy was adopted by the Board during 2019, and the IPL Board Charter and Charter of the Audit and Risk Management Committee were updated to formally enshrine Directors' roles in relation to the strategic management and oversight of climate change-related issues. The Charter of the Board states that the Board will: "(c) Review and approve, at least annually, Incitec Pivot's climate change management strategy, strategic business opportunities and risks related to climate change, and potential targets and performance objectives". In addition, climate-related issues are integrated into 'reviewing and guiding major plans of action' and

		'decision making processes regarding major capital expenditures, acquisitions and divestitures'. This is due to both the nature of our markets (mining, quarry & construction and agriculture, which can be impacted by extreme weather events) and the nature of our main manufacturing process which requires long term access to both gas supply and large volumes of high quality fresh water (for cooling purposes), as well as the management of the physical impacts of extreme weather events. Due to the use of gas as a feedstock, the manufacturing process is also carbon intensive. For these reasons, investment decisions regarding long term capital projects consider an assessment of likely carbon regulation, changing market forces and market sentiment (which can influence regional gas and water supplies) and possible impacts on customer demand from either market changes or extreme weather events.
Scheduled – some meetings	Setting performance objectives Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	Due to the significant proportion of energy cost in our manufacturing processes, energy efficiency/intensity (and therefore greenhouse gas emissions intensity) has been a major focus in our manufacturing operations for many years. KPIs associated with energy intensity are therefore integrated into our performance metrics at many levels of the organisation. For example, see table on p. 32 of the IPL 2018 Annual Report, which summarises the Strategic Initiatives Condition component for the LTI 2015/18, the LTI 2016/19 and the LTI 2017/20. These include an energy efficiency KPI and a manufacturing plant uptime KPI which support (and supported) the 2017, 2018, 2019 and 2020 IPL global greenhouse gas intensity reduction targets, set against a 2015 baseline. (IPL's 2026 absolute reduction target is also linked to executive remuneration).
Scheduled – some meetings	Reviewing and guiding risk management policies	The IPL Climate Change Policy was adopted by the Board during 2019, and the IPL Board Charter and Charter of the Audit and Risk Management Committee were updated to formally enshrine Directors' roles in relation to the strategic management and oversight of climate change-related issues, which are integrated into IPL's risk management processes and reported on in the Principal Risks section of the IPL Annual Reports. These included additional risks identified by a comprehensive risk and opportunity analysis

		conducted in 2018 using two future climate-related scenarios (a 2 Degree scenario and a 4 Degree scenario). These additional climate-related risks were reviewed in detail by the Audit and Risk Management Committee of the Board and formally assigned to the ET for management. Risk controls and risk control owners were identified in 2019. Risk identification and management strategies are reported to the Board through the established risk management reporting process.

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Financial Officer (CFO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Other C-Suite Officer, please specify Chief Technology Development Officer	Managing climate-related risks and opportunities	Quarterly
President	Managing climate-related risks and opportunities	As important matters arise
Environment/ Sustainability manager	Assessing climate-related risks and opportunities	As important matters arise

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

The Company's highest governing body, the Board of Directors, is responsible for charting the direction, policies, strategies and financial objectives of the Company. The Board operates in accordance with the principles set out in its Board Charter. Day-to-day management of Company affairs and the implementation of the corporate strategy and policy initiatives are formally delegated to the Managing Director & CEO, and her direct reports form the Executive Team. For this reason, the CEO formed and Chairs the IPL Decarbonisation and Energy Transition (DET) Steering Committee to develop the Company's Net Zero Pathway and to

manage the risks and strategic opportunities associated with climate change. The DET Steering Committee comprises selected executives including the CFO and the Chief Technology Development Officer, and management including the President Global Manufacturing and HSE, the VP Strategic Project Development and the Sustainability Manager.

• The CEO Chairs the DET SC and, as the person with Board delegated authority to implement the corporate strategy and policy initiatives, is responsible for managing climate-related issues. These responsibilities include coordinating with the other member of the DET SC on the assessment and monitoring of climate-related risks and opportunities and reporting results to the Board during the quarterly Board Meetings.

• The CFO is a member of the DET SC due to the financial and strategic aspects of the management of climate change, and because the IPL Chief Risk Officer reports to the CFO.

• The Chief Technology Development Officer is an expert in strategy, product development and new technologies and is tasked with overseeing the development of the IPL Net Zero Pathway, including the development of low carbon products and services, the evaluation and prioritisation of developing technologies to decarbonise IPL's manufacturing operations, and the integration of these into company strategy.

• The President Global Manufacturing and HSE is an expert in IPL's global manufacturing facilities which generate 97% of the Company's GHG and also oversees the maintenance shutdown schedules required to implement new technologies to reduce emissions. As such, this position is assigned the responsibility of implementing measures to achieve GHG emissions reductions at IPL's manufacturing facilities.

• The VP Strategic Project Development is also an expert in IPL's global manufacturing facilities and CAPEX approval process is tasked with the assessment of the technical and commercial readiness of emerging technologies required for IPL's decarbonisation.

• The Sustainability Manager is a subject matter expert in the field of sustainability and climate change and has been assigned the responsibility of overseeing climate-related scenario risk assessment.
The CEO and the DET Steering Committee are responsible for the development of the Company's Net Zero Pathway and the strategic management of business risks and opportunities related to climate change, including the incorporation of opportunities into business strategy. During the reporting period, the CEO (and Board) set/approved IPL's first absolute global GHG reduction target of 5% by 2026 against a 2020 baseline. The strategy being applied by the DET Steering Committee to progress the development of IPL's Net Zero Pathway 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/Use, N2O abatement technologies, renewable electricity and other alternate feedstocks.

2. The ongoing assessment of the technical and commercial readiness of each of these technologies at the scale required to decarbonise IPL's manufacturing facilities, including an assessment of materiality & 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 & technology partners.

3. The prioritisation of appropriate technologies and project development through feasibility studies such as IPL's AU$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.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction project Emissions reduction target	The performance conditions under the STI are determined by the Board for each financial year. The performance conditions for the 2020 STI include measures based on performance criteria for the execution and implementation of strategic objectives and business priorities. These include measures related to environmental and process safety, product innovation, customers and organic growth, and for the CEO, the delivery of actions to ensure the 2026 delivery of 5% GHG emissions reduction vs. 2020 baseline.
President	Monetary reward	Emissions reduction project Emissions reduction target	The performance conditions under the STI are determined by the Board for each financial year. The performance conditions for the 2020 STI include measures based on performance criteria for the execution and implementation of

			strategic objectives and business priorities. These include measures related to environmental and process safety, product innovation, customers and organic growth, and for the President Global Manufacturing and HSE, the delivery of actions to ensure the 2026 delivery of 5% GHG emissions reduction vs. 2020 baseline.
Energy manager	Monetary reward	Emissions reduction project Energy reduction project	69% of the company's emissions related to the use of gas as a feedstock and an energy source. Energy is a significant material cost to the business and energy use is closely managed as part of the corporate financial management. Energy efficiency/intensity targets underpin IPL's greenhouse gas intensity reduction targets. In addition, specific projects to meet IPL's 5% absolute reduction target by 2026, once identified, will be added to the performance bonuses of site-based energy managers.
Environment/Sustainability manager	Monetary reward	Company performance against a climate-related sustainability index	The performance bonus of the sustainability manager includes maintaining company scores and memberships in/of selected climate related sustainability indexes.
Facilities manager	Monetary reward	Emissions reduction project Energy reduction project	68% of the company's emissions related to the use of gas as a feedstock and an energy source. Energy is a significant material cost to the business and energy use is closely managed as part of the corporate financial management. Energy efficiency/intensity targets underpin IPL's greenhouse gas intensity reduction targets. In addition, specific projects to meet IPL's 5% absolute reduction target by 2026, once identified, will be added to the performance bonuses of the relevant Facilities Managers.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	1	3	IPL has historically made use of a three-year commodity cycle to define 'short-term'. Short term risks are assessed annually and addressed in the 'Principal Risks' section of the IPL Annual Reports.
Medium-term	3	6	Relates to two cycles of the three-year commodities cycle. Medium-term risks associated with climate change were initially assessed in 2010 by an executive cross functional committee established for this specific purpose as part of IPL's Sustainability Strategy, which was formed and approved by the Board in that year. (Physical risks identified at that time include, but are not limited to, impacts from extreme weather events on our farming and mining customers, our assets and our supply chain (including logistics). Impacts relating to transitional risks identified at that time include, but are not limited to, compliance, regulatory and legal risk, carbon pricing risk, reputational risk, and changing market sentiment impacting on our markets. The opportunities identified were associated with the development of new products, including enhanced efficiency fertilisers which aim to reduce emissions of N2O (a potent greenhouse gas) and energy efficient explosives technologies which aim to reduce greenhouse gas emissions by using less fossil fuel energy to displace overburden and access ore.) This committee has since been replaced by the IPL Decarbonisation and Energy Transition Steering Committee, which is Chaired by the CEO. During 2018, IPL engaged a specialist third-party to conduct its initial detailed assessment of the medium-term risks and opportunities associated with climate change using two future climate related scenarios: a 2-degree scenario and a 4-degree scenario. The Charter of the IPL ARMC was also amended to require a refresh of these scenarios every three years and IPL has engaged a third-party specialist to review the 2- and 4-degree scenarios, as well as the risks and opportunities identified, in 2021. During this engagement, a risk

			and opportunity assessment will also be conducted against two new scenarios: a 1.5 degree and an Inevitable Policy Response scenario.
Long-term	6	22	Prior to 2018, long-term risks associated with climate change were initially assessed in 2010 by an executive cross functional committee established for this specific purpose as part of IPL's Sustainability Strategy, which was formed and approved by the Board in that year. Physical risks identified at that time include, but are not limited to, impacts from extreme weather events on our farming and mining customers, our assets and our supply chain (including logistics). Impacts relating to transitional risks identified at that time include, but are not limited to, compliance, regulatory and legal risk, carbon pricing risk, reputational risk, and changing market sentiment impacting on our markets. The opportunities identified were associated with the development of new products, including enhanced efficiency fertilisers which aim to reduce emissions of N2O (a potent greenhouse gas) and energy efficient explosives technologies which aim to reduce greenhouse gas emissions by using less fossil fuel energy to displace overburden and access ore.) This committee has since been replaced by the IPL Decarbonisation and Energy Transition Steering Committee, which is Chaired by the CEO. During 2018, IPL engaged a specialist third-party to conduct a detailed assessment of the long-term risks and opportunities associated with climate change using two future climate related scenarios: a 2-degree scenario and a 4-degree scenario. These scenarios used longer term horizons to 2040. The Charter of the IPL ARMC was also amended to require a refresh of these scenarios every three years and IPL has engaged a third-party specialist to review the 2- and 4-degree scenarios, as well as the risks and opportunities identified, in 2021. During this engagement, a risk and opportunity assessment will also be conducted against two new scenarios: a 1.5 degree and an Inevitable Policy Response scenario, which will also extend to 2040.

C2.1b

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

IPL defines a 'material' financial impact as an AU$20 million impact or greater on EBIT. In addition to this financial threshold, IPL considers risks and management strategies based on an assessment of likelihood, with lower consequence risks that have a higher likelihood of occurring receiving an elevated level of management attention. IPL's risk management process also reviews the appropriateness of controls and management strategies for climate related risks with impacts of less than AUD$20 million on EBIT.

C2.2

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

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Management, through the Managing Director & CEO and the Chief Financial Officer, is responsible for the overall design, implementation, management and coordination of the Group's risk management and internal control system. Each business unit has responsibility for identification and management of risks specific to their business. This is managed through an annual risk workshop within each business unit. The risk workshops are facilitated by the Chief Risk Officer, and form part of the annual internal audit program, thereby aligning the internal audit activities with material business risks. The outcomes of the business unit risk workshops are assessed as part of the annual corporate risk workshop. The resultant Corporate Risk Register is presented to the Audit and Risk Management Committee on an annual basis, and management is required to present regular updates to the Committee on material business risks.

Prior to 2018, the physical and transitional risks and opportunities for IPL associated with climate change were assessed by the IPL Sustainability and Carbon Steering Committee, high-level cross functional committee which operated in 2010 for this specific purpose as part of IPL's Sustainability Strategy, which was formed and approved by the Board that year. Physical risks identified at that time include, but are not limited to, impacts from extreme weather events on farming and mining customers, IPL assets and IPL supply chain (including logistics). For example, increasing severity of both prolonged droughts and extreme flooding events in Australia would impact farming customers and have greater impact on fertiliser sales revenues than has previously been the case. This is being mitigated by both geographic and market diversity. Impacts relating to transitional risks identified at that time include, but are not limited to, compliance, regulatory and legal risk (including carbon pricing risk),

reputational risk, and changing market sentiment impacting on our markets. For example, if carbon pricing which contains no exemption for Emissions Intensive Trade Exposed (EITE) industries was applied in only some countries/regions would impose a cost which could not be passed on to customers for bulk ammonia products (both explosives and fertilisers) because the price for these commodities is set by the international market, making IPL's manufacturing facilities in these regions uncompetitive. This risk is being mitigated by engaging with local regulatory bodies to ensure EITE manufacturers are protected until global carbon pricing means no manufacturer is disadvantaged. (The opportunities identified were associated with the development of new products, including enhanced efficiency fertilisers which aim to reduce emissions of N2O (a potent greenhouse gas) and energy efficient explosives technologies which aim to reduce greenhouse gas emissions by using less fossil fuel energy to displace overburden and access ore). The potential financial impact of each risk was estimated by the cross functional Sustainability and Carbon Steering Committee. This committee has since been replaced with the IPL Decarbonisation and Energy Steering Committee, which is chaired by the CEO.

As per IPL’s risk management process, risks are then assessed against the IPL Risk matrix, a matrix of varying likelihoods and consequences that is used to determine its overall Risk Rating, then ranked in order of importance to determine whether a risk is above or below IPL’s Risk Threshold. All risks are integrated into IPL's risk management process (described in paragraph 1 above) through each risk being assigned to a risk owner in the appropriate business unit, and through controls (including monitoring) being assigned to risk control owners. This ensures that risks are reviewed annually, at a minimum, as part of IPL’s Annual Risk Review process.

With the release of the G20 Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) report, IPL began to use future climate-related scenarios to conduct an additional assessment of climate-related risks and opportunities every three years, with the first assessment in 2018. Previous risks and their estimated financial impacts are reassessed against updated scenarios. Newly identified and emerging risks are assessed against the IPL Risk matrix and integrated into IPL's risk management process, as described above, where they are included in annual risk reviews. In 2018, IPL used 2- and 4-degree scenarios and will add 1.5 and Inevitable Policy Response Scenarios in 2021. The scenarios are compiled by an expert third party specifically for IPL using RCPs and SSPs, and 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, energy and power, agriculture, mining, quarry and construction, infrastructure and transport, with the risk assessments considering the financial risks and opportunities for IPL in these areas under each scenario. The scenario based risk assessments also considered the physical and transitional impacts on IPL’s 13 major manufacturing operations on an individual and detailed basis.

Additional physical risks identified in the 2018 4 and 2 degree scenario analyses risk assessment include an increasing incidence of logistics and supply chain interruptions

from extreme weather events, increasing water scarcity at some IPL manufacturing locations, increased risk of storm water pond overflows at some sites, increasing incidence of hurricanes for one manufacturing site, and an increased risk of storm inundation at two sites located close to sea level due to creeping deal level rise. For example, our Gibson Island site uses high volumes of high-quality water for cooling purposes. The site is located in an area that currently experiences high baseline water stress due to (a) a large local population and (b) high inter-annual variability in rainfall, and this water stress is expected to double by 2030. This could impact on production rates and/or result increased water costs for IPL, as well as impacting on local communities. This risk is being managed by connection of the site to a source of recycled water during 2021 which will ensure supply and also leave 6 million litres of potable water in south-east Queensland dams every day for our local communities. Additional transitional risks identified include market changes, including impacts on bulk explosives product demand arising due to shrinking thermal coal markets, which will affect revenues. The transition away from thermal coal customers supplied by a key explosives manufacturing site is being managed through increasing our market share in the Quarry & Construction segment, with potential to switch from explosives to fertiliser supply.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Examples include Current Carbon Pricing Risk (Short-term risk - impact on EBIT). For example, the current Australian Federal Government 'Direct Action' policy includes three IPL manufacturing facilities under the ERF Safeguard Mechanism. The Safeguard Mechanism has established annual GHG baselines for these facilities. If these baselines are exceeded, IPL is required to purchase and surrender one Australian Carbon Credit Unit for each tonne of CO2e in excess of the baseline, which would impact EBIT. For example, an unexpected maintenance issue at one site in 2018 resulted in less effective abatement of nitrous oxide (N2O) for a period, causing the GHG baseline to be exceeded. IPL successfully applied for a three-year monitoring period and will settle the liability at the end of this period in 2021. In this case the impact is expected to be between AUD$1-2 million.
Emerging regulation	Relevant, always included	Examples include Transitional Risks: 1. Emerging Carbon Pricing Risk (Short to medium-term risk - impact on EBIT & market competitiveness): If the current Australian Federal Government 'Direct Action' policy Safeguard Mechanism rules were changed to mandate the progressive lowering of baselines over time in order for Australia to meet international GHG reduction targets (NDIs), IPL EBIT could be impacted unless manufacturing processes could be

		decarbonised as quickly as baselines were lowered. Carbon pricing regulation may also be introduced in other jurisdictions where IPL operates. Our manufacturing facilities are located across various geographical locations that may be impacted by regulatory changes aimed at reducing the impact of, or otherwise addressing, climate change. Any changed regulation could result in an increase to the cost base or operating cost of these plants, and it may not be possible to alter sales prices to offset these cost increases, due to commodities pricing being established by international markets. This would result in impacts on EBIT and pose a competition risk. 2. Carbon pricing may also increase costs to transport products, which could impact until road, rail & shipping options are be retrofitted with zero or low carbon mobility options (e.g. hydrogen). 3. Emerging GHG Limits Regulation: Risk to Licence to Operate (medium to long term risk). Alternatively, certain regulatory changes may potentially impact the ability of manufacturing plants to continue functioning as currently operated. For example, if the EPA or other regulatory bodies were to impose a limit of GHG for a facility which could not be offset by purchasing carbon credits, investment in decarbonisation of plant processes or closure of the plant would need to occur. This would impact on impact on CAPEX and manufacturing profits. 4. Competitiveness Risk. Risk of inconsistent regulations across jurisdictions impacting on competitiveness (medium-term risk). The above risks would be heightened if regulatory changes are implemented inconsistently across regions or countries so that IPL's facilities (principally located in Australia & North America) are impacted by regulatory changes while manufacturing facilities of competitors operating in other jurisdictions are less impacted. For example, a Carbon Price in Australia which has no EITE protection considerations would make ammonia manufactured by IPL in Australia a higher cost to produce on the global market.
Technology	Relevant, always included	Transitional Risk: In the 2 Degree future scenario developed for IPL, the global economic and political environment is highly supportive of investment, deployment and trade of no and low carbon technologies, including in transport, energy, agriculture and new infrastructure builds, whereas in the 4 degree scenario, many regions start to focus on adaptation technologies, especially related to food and water security, and defence related to the protection of these resources. IPL is currently highly dependent on the availability of affordable natural gas, both as a feedstock for hydrogen and as a fuel source. IPL would need to either transition away from natural gas to a low carbon

		feedstock or develop manufacturing processes which captured carbon for sequestration or as a solid, preventing it from being released to the atmosphere as carbon dioxide. A transition to low-carbon manufacturing technologies could cause an increase in IPL's costs (impacting OPEX and in turn, EBIT). For example, as determined by our recent Moranbah Solar Hydrogen Feasibility Study, a transition to solar hydrogen (replacing hydrogen from natural gas with hydrogen produced from splitting water with solar power)at the industrial scale required for this ammonia manufacturing facility is currently more expensive than natural gas, and would affect IPL's P&L's or be reflected in an increased cost to the consumer, which in turn could result in a decrease in customers for the company. IPL continues to monitor developments in the renewables and low carbon energy space, including solar hydrogen and other alternative feedstocks.
Legal	Relevant, always included	Carbon Pricing and Non-compliance risks (Short to Medium term risk): A range of legal implications related to climate change are considered in our risk assessments, including carbon regulations and carbon pricing, as reported above under 'Current Regulations' and 'Emerging Regulations'. In addition, there are legal risks associated with non-compliance with GHG reporting legislation or legal emissions limits. For example, if IPL were unable to source the required ACCUs (on the open market) to settle a carbon liability accrued due to an exceedance of GHG baseline limits at one of its Australian manufacturing sites under the 'Direct Action' Safeguard Mechanism (described above under 'Current Regulation'), IPL may be at risk of prosecution for non-compliance. IPL monitors the emerging carbon market in Australia and globally, as well as its emissions at manufacturing sites in order to manage this risk.
Market	Relevant, always included	Market Risk: Transitional Risk (current to medium term): The impacts of climate change on IPL's major markets (mining, quarry & construction, and agriculture) are considered in our risk assessments in detail, and include not only the direct acute and chronic physical impacts on these customers, but also transitional risks associated with market shifts. Examples of potential market shifts include an expected trend towards increased recycling of metals (which would reduce the volume of explosives to mine these, impacting on IPL revenues); changes in mining trends away from coal towards the minerals required for new technologies which require less volume of bulk explosives (which would reduce the volume of explosives to mine these, impacting on IPL revenues); changes in crop growing regions and impacts on global trade and regions as described in the Climate Risk Index (CRI). For example, our Cheyenne, Wyoming ammonia manufacturing facility

		is located close to the Powder River Basin (PRB) and currently supplies large volumes of AN explosives to mine the Powder River Basin thermal coal deposits there. A declining market of explosives to mine this thermal coal could impact on this site's revenues and asset valuation. Thermal coal demand in this region is already declining and is being managed through expanding IPL's market share in the Quarry and Construction sector. The nature of the manufacturing facility means that it can potentially be repurposed to produce fertiliser (also with an ammonia base) if required in the future.
Reputation	Relevant, sometimes included	Reputational risks are considered in risk assessments due to IPL's carbon intensive manufacturing process. The risks relate to IPL's transparent reporting of the management of climate change related issues to ensure that stakeholders are aware of internal actions being taken to transition the company to a low carbon future. Attitudes and expectations towards companies with respect to climate-related issues, for example, to assess and report risks appropriately, as well as to describe their Net Zero Pathways are expected to increase. For example, IPL is an ASX listed company with institutional investors. If IPL does not communicate effectively and transparently regarding its Net Zero Pathway, and/or management of climate related risks and opportunities, this could impact share price and customer sentiment, further impacting on revenues. This risk could be exacerbated by climate active NGOs and media reporters. IPL is managing this risk by engaging with stakeholder to communicate our Net Zero Pathway and by reporting risks, opportunities, strategy, governance and metrics associated with managing climate change in line with the Task Force on Climate-related Financial Disclosure (TCFD) guidelines.
Acute physical	Relevant, always included	Impacts on Operations (including supply chain): Some of IPL's manufacturing plants are located in areas that are susceptible to extreme weather events, such as hurricanes, 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 IPL's operations directly or as a result of supply chain disruption, which includes transportation of raw materials and finished product via road, rail and water. Impacts such as these may increase in the short term (1-3 years). Under this scenario, insurance premiums would be expected to increase along with a possibility that some events may be excluded from cover. 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. For example, a single rail line connecting our Phosphate Hill fertiliser manufacturing site (which is remotely located to access a natural phosphate deposit) could be affected by an increased incidence of flooding events, or by extreme heat. This risk to operations is being managed through planning fast

		response road load out to temporary rail loading facilities at various points along the rail line and building of larger storage facilities at the site so that more product can be stored, and production levels at the 24-hour chemical plants maintained.
Chronic physical	Relevant, always included	IPL provides products and services to end markets, individual customers and suppliers that may be impacted by changes to weather patterns resulting from climate change. Changes to the number and/or intensity of storms, hurricanes and other extreme weather events may impact IPL's end markets, primarily mining and agriculture. Water is a key raw material for manufacturing, with the majority used for cooling purposes. In the 4D scenario, it is predicted that average annual rainfall will be reduced, and longer periods of prolonged drought will be created, especially in Eastern Australia. Several manufacturing sites are located on coasts and are very close to sea level. A significant rise in sea level combined with a king tide may cause flooding events at these sites from 2030 onward (considered a long-term risk) particularly with increased storm activity causing storm surges to become more intense.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Impacts on Operations (including supply chain): Some of IPL's manufacturing plants are located in areas that are susceptible to extreme weather events, such as hurricanes, tropical & electrical storms, floods and tornadoes. These sites include our Waggaman, Louisiana ammonia plant (hurricanes), Phosphate Hill ammonium phosphate manufacturing plant (floods), Louisiana, Missouri ammonium nitrate manufacturing plant (floods) and two initiating systems plants located in the USA (electrical storms). 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 IPL's operations directly or as a result of supply chain disruption, which includes transportation of raw materials and finished product via road, rail and water. Impacts such as these may increase in the short term (1-3 years). Under this scenario, insurance premiums would be expected to increase along with a possibility that some events may be excluded from cover. 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.

For example, our Phosphate Hill ammonium phosphate fertiliser manufacturing site is located in remote northern Australia (near a natural phosphate deposit) where scenario analyses describe hotter, wetter weather conditions and an increase in the incidence & 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 in, and product transport out, of site. In 2016, flood waters caused a derailment of sulphuric acid supply to the site, resulting in an AU$10 million impact on EBIT. In 2019, a one-in-one hundred-year flooding event damaged third-party rail infrastructure, interrupting rail services to the site for 3 months (early Feb to early May 2019). 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, and several plant trips were experienced during restarting. This resulted in a period of almost three months in which production was interrupted. The total EBIT impact of the event was AU$115m.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

115,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The AU$115m impact reported is the actual impact of the 2019 one-in-one-hundred-year flooding event before the development of comprehensive contingency plans and CAPEX spend to increase site storage. The following breakdown is provided:
AU$95m implied lost sales margin
+ $13m loss from manufacturing plant inefficiencies (sulphur, gas, electricity, sulphuric acid, take or pay agreements)
+ $2m to set up temporary alternative rail loading facility beyond flood damaged zone
+ $3m road freight to alternative rail loading facility
+ $2 other one off costs
= $115m.
(Note: No costs were incurred by IPL in repairing the damaged rail infrastructure because the rail line is owned and operated by a third-party. No IPL operations were damaged by the flood).

Learnings and contingency plans which have been developed as a result of this event have reduced the potential financial impact of future similar events. Product storage capacity at the site has been increased and lessons learned during the event have informed contingency planning for future events. As a result, the expected financial impact of a similar future event at this site is expected to be ~AU$30m.

In similar event, extensive flooding near our Louisiana, Missouri site damaged third-party rail infrastructure during 2019, which also required 3 months to be repaired. In this case, multiple third party operated transloading facilities along the rail line were able to be accessed, allowing our supply chain team to divert product loadouts to these by alternative road transport and maintain customer supply with a non-material impact (US$320,000 for additional freight costs).

Cost of response to risk

3,820,000

Description of response and explanation of cost calculation

Following the one-in-one-hundred-year flooding event at Phosphate Hill in 2019, a detailed review of contingency plans for rail interruptions at the site was completed. As a result, additional on-site and contingency storage was built, a dry truck unloading chute/conveyor and telehandler were hired for the 2021 wet season and a number of other process changes were implemented which will allow IPL to better prepare for, manage and mitigate the risks associated with future rail interruptions, both minor and major. In association with the risk review, an internal audit was conducted by KPMG which identified further minor improvements to contingency plans and resulted in an overall rating of ‘satisfactory’. This Case Study has been used to arrive at the cost of response figure reported above as follows:
AU$3.6m installation of increased product storage to avoid plant shutdowns in the event that rail transport must be transferred to road (which is slower)
+ $220,000 over the wet period to hire a dry truck unloading chute/ conveyor and telehandler for the 2021 wet season in case it is required.

Other mitigation responses for physical impacts include:
• Geographic and customer market diversification to reduce the financial impact of single point risks
• Due to its location in a hurricane zone, the Waggaman Louisiana plant was built 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. The design was signed off by a Louisiana based certified Professional Engineer with experience in design standards for the region, where the impacts of future hurricanes must be considered.
• Safety and evacuation plans are in place for all personnel and sites.
• IPL has developed technology solutions to increase the shelf life of products since this assessment in 2018.
• The Group endeavours to include force majeure clauses in agreements where relevant.
• Insurance policies are in place across the Group.
• The location of the Moranbah facility close to high quality metallurgical coal producers would provide IPL with a strategic advantage over its competitors in the event of supply chain disruption due to extreme weather events.
• Domestic co-location of critical products and diversification away from single source suppliers, already being managed, will assist in managing supply chain interruption.
• Monitoring of weather by Site Managers in high risk locations

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Chronic physical
Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

IPL provides products and services to end markets, individual customers and suppliers that may be impacted by changes to weather patterns resulting from climate change. Changes to temperature, the amount of rainfall or the number and/or intensity of storms and other weather events may impact IPL's end markets, primarily mining, quarry & construction, and agriculture.
For example, scenarios describe the south of Australia as becoming hotter and drier due to climate change, and IPL supplies 60-70% of the fertiliser market in this region. Much

of eastern Australia experienced severe drought conditions during 2018-19. These conditions impacted on IPL's fertiliser sales volumes and mix, with the impact on EBIT calculated and publicly reported as $33.6 million in the 2019 IPL Annual Report.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

20,000,000

Potential financial impact figure – maximum (currency)

40,000,000

Explanation of financial impact figure

This figure is based upon reported annual impacts on EBIT associated with previous drought and flooding events impacting on IPL's customer markets. The range was arrived at using the past actual reported impacts below:

• AU$33.6m impact of prevailing drought conditions in Northern Victoria, New South Wales and Southern Queensland adversely impacted fertilisers sales volumes and mix (revenues) in early 2019

• AU$19.8 non-material impact on distribution earnings which were adversely impacted by sales mix in 2018 due to drought conditions in NSW and Southern Queensland dampening nitrogen demand for winter crop application in these regions. The impact of dry weather was somewhat mitigated by higher global Urea prices, higher sales volumes in non-drought affected regions and higher distribution margins, demonstrating the advantage of geographical, market and product diversity.

• A non-material impact on EBIT due to drought in Northern Australia which negatively impacted fertiliser sales (revenues), primarily lower BigN sales into the Northern NSW and Queensland

cotton markets, due to drought conditions in those regions.

Cost of response to risk

3,000,000

Description of response and explanation of cost calculation

• The S&OP process incorporates forecasting which enables upcoming seasonal scenario planning and some supply flexibility. Forecasts are based on typical weather conditions and are reviewed on an ongoing basis as the seasons progress to help align

supply to changing demand.
• Geographic and market diversity (fertiliser): IPL's Australian fertilisers business operates in all Australian States other than Western Australia. In addition to geographical diversity, there is also diversity across crops – IPL supplies fertilisers for a wide range of agricultural applications – and customers serviced. For example, in 2018 distribution earnings were adversely impacted by sales mix due to drought conditions (in NSW and Southern Queensland) dampening nitrogen demand for winter crop application in these regions. The impact of dry weather was somewhat mitigated by higher global Urea prices, higher sales volumes in non-drought affected regions and higher distribution margins, demonstrating the advantage of geographical, market and product diversity.
• Geographic and market diversity (explosives): The explosives business operates across North America and Asia Pacific, and in Europe, and is primarily aligned to customers with tier 1 assets, being those with the most efficient operations and best resources. Also, there is diversity in customer base, with products and services supplied for iron ore, base and precious metals, quarry and construction, and thermal and MET coal customers.
• DEVELOPING FERTILISERS FOR A WARMING CLIMATE: In 2020, IPL continued the testing of silicon fertilisers which have been shown to increase stress resistance in crops & replace silicon lost from soils through certain crops. Results to date indicate that crop tolerance of abiotic stresses, such as heat stress, can be increased.
The 'cost of 'response' reported here is the annual R&D investment into the development of fertilisers for a warming climate, as described above. Zero is included for the other mitigating actions, reported here because the S&OP process and our geographic diversity requires no additional investment.

Comment

Identifier
Risk 3

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

Risk type & Primary climate-related risk driver
Current regulation
Carbon pricing mechanisms

Primary potential financial impact
Increased indirect (operating) costs

Company-specific description
IPL has manufacturing facilities across various geographical locations that may be impacted by regulatory changes aimed at reducing the impact of, or otherwise addressing, climate change. Any changed regulation could result in an increase to the cost base or operating cost of these plants, and it may not be possible to alter sales

prices to offset these cost increases. This includes, but is not restricted to, any regulations relating to reducing carbon emissions. Alternatively, any such regulatory changes may potentially impact the ability of these plants to continue functioning as currently operated. This risk would be heightened if regulatory changes are implemented inconsistently across regions or countries so that IPL's facilities (principally located in Australia and North America) are impacted by regulatory changes while manufacturing facilities of competitors operating in other jurisdictions are less impacted.

For example, carbon pricing currently applies in Australia, where three of our major manufacturing sites are located. These three sites at Phosphate Hill, Gibson Island and Moranbah, make up over 95% of our total Australian Scope 1 emissions, which were 1.6million tonnes CO2e in 2020. Under a 2-degree scenario, rapid action to limit climate change to 2 degrees would require a global carbon price of US$100 by 2022 (short-term risk: 1-3 years). In this scenario, carbon pricing would increase operational costs as well as costs to transport products until 2025, when the scenario describes most transport options being retrofitted with zero or low carbon mobility options (e.g. electricity and hydrogen). The transition to a global carbon price may give rise to a period of volatility where IPL would not be able to pass through the immediate carbon costs to customers, who may choose to source products more locally where available to avoid these carbon costs. However, well designed carbon pricing schemes may also offer opportunities to leverage grants to assist in the transition to low carbon technologies.

In a second example, the US State of Oregon, where our St Helens manufacturing facility is located, is currently designing rules to implement an ETS as a result of an Executive Order by the Governor of Oregon. The impact could be up to $10m by 2024, depending on the rules of the scheme.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

32,000,000

Potential financial impact figure – maximum (currency)

332,000,000

Explanation of financial impact figure

• IPL's Australian scope 1 emissions were 1.6m tCO2e in 2020. If a AU$20 carbon price was applied to these emissions the impact would be AU$32m (1,600,000 tCO2e x $20 = 32m)
• IPL's global scope 1 emissions were 3,319,417 tCO2e in 2020. If a AU$20 carbon price was applied to these emissions the impact would be AU$66.4m (3,319,417 tCO2e x $20 = 66.4m)
• A global US$100 carbon price would result in an impact of 3,319,417 x $100 = $US332m. However, a global carbon price (rather than carbon pricing emerging in some jurisdictions and not others) would mean that such a cost impost could be passed on to customers and would not result in IPL being disadvantaged unless competitors produced products with lower emissions intensities than IPL.

Cost of response to risk

1,550,000

Description of response and explanation of cost calculation

To manage this risk, the IPL Corporate Sustainability Manager chairs the Carbon Pricing Steering Committee (CPSC). The CPSC comprises manufacturing, strategy, finance, treasury & energy contract management personnel across our global sites. The CPSC, through the Sustainability Manager and VP Strategic Projects, continually monitors emerging carbon pricing developments & informs the Decarbonisation & Energy Transition Steering Committee and the Board of relevant compliance requirements and market opportunities. For example, the emerging 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 engaging with the relevant regulatory body and report back to the CPSC.
The CEO formed and Chairs the IPL Decarbonisation and Energy Transition (DET) Steering Committee to develop the Company's Net Zero Pathway and reduce exposure to carbon pricing risks. The DET Steering Committee comprises selected executives including the CFO, the Chief Technology Development Officer and the President Global Manufacturing and HSE, and management including the VP Strategic Project Development and the Sustainability Manager. For example, the DETSC has identified potential projects for implementation at IPL"s manufacturing sites to achieve IPL's 5% absolute reduction target by 2026 against a 2020 baseline. $800,000 has been allocated to the DETSC to investigate these.
The cost of response to risk reported includes the following:
AU$750,000 in specialist roles related to carbon pricing management and the development of IPL's Net Zero Pathway.
+ AU$800,000 in DETSC funding allocated to manage decarbonisation pathway projects
= AU$1,550,000
Other 'no cost' risk management actions and resilience aspects include:
• IPL has a large, diverse supplier group, which would assist in avoiding carbon pricing pass through in the short-term.
• IPL customer agreements provide for the pass through of carbon pricing where possible.
• 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, in the period between 2030 and 2040 where carbon pricing may be applied unevenly (in some jurisdictions).

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market

Other, please specify

Market shift away from mining of thermal coal for energy

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

Under a 2-degree scenario, transitioning away from fossil fuels is likely to significantly decrease demand for thermal coal, with impacts beginning in the short term (1-3 years). IPL supplies explosives to the thermal coal mining sector in the Powder River Basin in the US. Revenues from supply to this market have been reducing for several years, and made up 21% of IPL's Americas revenue and 6% of IPL's total global revenue in 2020. Continued reduction in demand for thermal coal would reduce IPL's revenues from this sector.
However, the 2-degree scenario also describes technologies associated with renewable energy such as electric vehicles and largescale batteries as likely to expand dramatically, with World Bank estimates indicating that demand for the metals required for these technologies could grow by 1000% under a 2-degree scenario.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

287,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

This figure is the total revenue from IPL's supply of explosives to the thermal coal mining sector in the US (AU$240m) and Australia (AU$47) in 2020. The figure reported therefore assumes the total impact if the entire market was lost (in 2020 earnings) with no expansion of revenues in other sectors.
$240 + $47 = $287m

Cost of response to risk

3,000,000

Description of response and explanation of cost calculation

IPL's major exposure to thermal coal is supplying the Powder River Basin (PRB), North America's most competitive thermal coal mining region with ammonium nitrate (AN) explosives manufactured at our Cheyenne, Wyoming plant (which is located adjacent to the PRB) and some imported AN. This sector made up 21% of IPL's Americas revenue, and 6% of global revenues in 2020. The Cheyenne site is also well positioned to service the Base & Precious Metals mining sector in Western US. To date, the decline in revenues from thermal coal mining in the PRB has been managed through expanding revenues into the Base & Precious Metals and Quarry & Construction sectors, which made up 35% and 43% of IPL's Americas revenues in 2020.

In the event that this strategy fails to utilise the full volume of AN manufactured at our Cheyenne, Wyoming facility in the nearby Base & Precious Metals market (with imported AN being diverted to Quarry & Construction markets elsewhere) it would be feasible to convert the Cheyenne plant to manufacture UAN fertilisers with an investment of ~AU$3m, as a small urea plant is already operating at the site.

The 'Cost of response' figure reported here is the AU$3m CAPEX that would be required to convert the plant from AN explosives manufacture to UAN fertiliser manufacture, as managing customer markets does not require additional investment. In addition:
• Since IPL currently buys in a portion of its ammonium nitrate to fulfil current demand in the PRB, the Group could manage a more rapid than expected market change away from thermal coal through reduced purchasing of third-party ammonium nitrate.
• IPL seeks to maintain competitive cost positions in its chosen markets, whilst maintaining quality product and service offerings. This focus on cost and quality positions its business units to compete over the medium to longer term in changing and competitive environments.
• In the 2-degree scenario the reduction in demand for explosives supplying the thermal

coal markets will be partly offset by the mining of new world commodities required for renewable technologies which could be higher margin activity.

Comment

The cost of the response to this risk is the estimated AU$3m CAPEX cost to convert the Cheyenne plant from AN manufacture (for explosives) to UAN manufacture (for fertilisers).

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact

Other, please specify

Interruption to production

Company-specific description

Water is a key raw material for manufacturing at some sites, with the majority used for cooling purposes. Under a 4-degree climate change scenario, it is predicted that average annual rainfall will be reduced, and longer periods of prolonged drought will be created, especially in south 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. These impacts could occur in the short-term (1-3 years), with very low dam levels being recorded near some sites currently and in the recent past. Three IPL sites which may be affected in Queensland, Australia are the Mt Isa sulphuric acid manufacturing plant, the Moranbah ammonium nitrate manufacturing plant and the Gibson Island ammonia manufacturing plant. (The Phosphate Hill site is supplied by a groundwater source which is renewed each year during the northern wet season, where rainfall is expected to increase).

For example, the Gibson Island ammonia manufacturing site is located in Brisbane, Queensland and uses high volumes of high-quality cooling water in the ammonia plant. The WRI Aqueduct Water Tool identifies the site as being located in a catchment currently subject to high (40-80%) baseline water stress and high 'Physical risk - Quantity' due to a relatively large local population and high inter-annual variability in rainfall. The Tool also predicts that baseline water stress in the catchment will double by 2030 due to climate change affecting rainfall and a growing population.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

7,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

This figure is the impact on EBIT which would result from a three-week outage at the Gibson Island ammonia manufacturing site due to water shortages.

Cost of response to risk

4,000,000

Description of response and explanation of cost calculation

During 2020, IPL worked with Seqwater, the Queensland Government Bulk Water Supply Authority, and Urban Utilities, who operate a water recycling plant located near the Gibson Island site, to enable the purchase of recycled water. During 2021, we aim to conclude an agreement and begin laying a pipeline to bring around 6,000 kL per day of recycled water to the site. This will ensure an uninterrupted supply in the event that municipal water supplies become restricted and also leave 6,000 kL per day in the municipal water supply dams for community use.

The 'cost of response' provided is the total project cost to lay the pipeline from the recycled water plant to the Gibson Island plant, and connect it to site.

Comment

C2.4

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

Yes

C2.4a

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

Identifier
Opp1

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Primary potential financial impact
Returns on investment in low-emission technology

Company-specific description
Increased revenues through continued development and increased sales of enhanced efficiency and low emissions explosives and fertilisers, including Differential Energy explosives, Green Urea NV fertilisers, ENTEC fertilisers and eNpower fertilisers.

Fertiliser demand initially grows in both the 2D and 4D scenarios before declining in the 4-degree scenario due to physical impacts. Domestic demand in Australia and the US (where IPL manufacturing sites are located) becomes more important as the physical impacts of climate change impact on international trade. The 2D scenario describes a rise in fertiliser use overall from 2025 due to increased focus on restoring the large proportion of the world's degraded agricultural land and unused land close to urban centres in order to provide food and fibre for a growing population. Artificial growing environments may be developed to meet growing demand while avoiding additional land clearing. Higher yields will need to be obtained from smaller land plots. New farms are expected to be built around urban centres, using highly controlled environments (i.e. vertical and high-density farms with unique soil mixes). Products that reduce carbon emissions for growers, are environmentally friendly and provide precision nutrient application for plant growth (e.g. slow release fertilisers) will have a significant competitive advantage in this scenario.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

30,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Customer uptake of IPL's enhanced efficiency fertilisers, which have been shown to reduce nitrogen losses as N2O (a greenhouse gas) and enhanced efficiency explosives, which reduce fossil fuel use (and therefore also GHG) continues to grow. In 2020, we saw 28% growth in the sales volumes of our third high efficiency fertiliser, eNpower™, which was released to market in 2019.

The 'potential financial impact' reported is the revenue increase that would result if 20% of fertiliser sales (tonnes sold in 2020) made in 2020 were replaced with premium high efficiency (low GHG release) fertiliser sales. (EBIT is not reported here due to issues related to commerciality in confidence).

Cost to realize opportunity

10,000,000

Strategy to realize opportunity and explanation of cost calculation

Following a strategic review of IPL's fertilisers business (IPF) undertaken in 2020, 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, including precision application of nutrients to reduce environmental impacts, such as GHG, and increase yields. Our enhanced efficiency fertiliser (EEF) range (Green Urea®, Entec® products and eNpower™) are specially formulated to retain nutrients in more stable forms for longer periods, reducing the likelihood of volatilisation losses to the atmosphere and to waterways through leaching. EFF products not only reduce nitrogen losses to the atmosphere as N2O (a GHG), they facilitate greater uptake of nitrogen to the crop, enabling higher yields for growers on less cleared land.

The cost to realise figure is the cost of CAPEX to build an additional product coating facility to switch 20% of our fertiliser sales to EEFs, which is AU$10m.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Markets

Primary climate-related opportunity driver

Other, please specify

Increase in product demand due to physical impacts

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Market changes: Both the 2D and 4D scenarios describe conditions in which demand for explosives in the Quarrying and Construction sector will increase. In the 2D scenario, steady urbanisation rates and enough global wealth to support stable development will likely lead to the building, reinforcing and repairing of roads, buildings and other infrastructure. As only 1 percent of all residential buildings and commercial buildings in the USA are certified ‘green’, an enormous opportunity presents itself for retrofitting of buildings in a future which addresses climate change. Although not as severe as in the 4D scenario, physical impacts are still expected to occur, and rebuilding is required. While this will be completed in a resource efficient way, the scale of the transition is large and generates increased demand for aggregate, even though the use of recycled aggregate and re-use of building materials occurs.

The 4D scenario describes a future in which natural disasters severely impact on cities, towns and infrastructure, particularly along coasts due to sea level rise. An immense quantity of aggregate and other quarried materials is required in this scenario to rebuild, and to build new climate resilient infrastructure. This scenario describes the Quarrying and Construction sector expanding between 2020 and 2040 as the world (and the USA in particular) seeks to rebuild and protect itself from the physical impacts of climate change. From 2035, the scenario describes decreasing demand from many emerging and developing economies which cannot afford to rebuild after the cumulative losses from both the acute and chronic physical impacts of climate change.

For example, IPL's has an ammonium nitrate manufacturing facility in Australia at Moranbah, ammonium nitrate manufacturing facilities at Louisiana, Missouri and Cheyenne Wyoming, and initiating system manufacturing plants at Wolf Lake in Illinois, Simsbury in Connecticut, Gregory in Kentucky and Carthage in Missouri. These plants are domestically located in the USA and Australia, countries which have strong governance and can afford to rebuild infrastructure in the event that the physical impacts of climate change cause damage. This would provide IPL with an opportunity to generate increased revenues through supplying increased demand for explosives products in these domestic markets.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

48,300,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The revenues from IPL's supply of explosives to the quarry and construction sector in 2020 were AU$483.3m in 2020. A 10 percent increase would be equivalent to $48.3m.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

IPL's Dyno Nobel business is the second largest industrial explosives distributor in North America by volume, providing ammonium nitrate, initiating systems and services to the Quarry & Construction sector in the southern US, northeast mid-west US and Canada. In 2019, 40 percent of Dyno Nobel Americas explosives revenue was generated from this sector, and in 2020, this increased to 43%, with strong growth due to both market and share growth.

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 three 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. This technology is was rolled out in the Asia Pacific business during 2018 and has continued to expand to 2020.

Dyno Nobel Americas also operates a Quarry Academy training centre for stone quarry operators, maximising contact with potential new customers.

The cost to realise this opportunity is reported as zero due to their being no additional costs associated with managing customer market share.

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes

C3.1b

(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?

	Intention to publish a low-carbon transition plan	Intention to include the transition plan as a scheduled resolution item at Annual General Meetings (AGMs)	Comment
Row 1	Yes, in the next two years	Yes, we intend to include it as a scheduled AGM resolution item	

C3.2

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

Yes, qualitative, but we plan to add quantitative in the next two years

C3.2a

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

Climate-related scenarios and models applied	Details
RCP 2.6 RCP 4.5 RCP 6 IEA Sustainable development scenario IEA NPS BNEF NEO Other, please specify • IPCC AR5 • Monsoonal North Cluster Report, Climate Change in Australia • Coastal Master Plan: C2-4: Tropical Storm Intensity and Frequency, Baton Rouge, Louisiana •	In 2018 IPL engaged a specialist third-party to create 2 & 4-degree (D) future climate-related scenarios specifically for IPL to use in risk management, strategy and business planning. The scenarios use 2025, 2030, 2040- and 2050-time horizons and each describe how physical climate change and efforts to reduce emissions would impact on areas of relevance to IPL, including carbon pricing & market development; technology development; the physical environment; energy & power; agriculture; mining; infrastructure; & transport. They also described the physical & transitional impacts on IPL's 12 major manufacturing operations on an individual basis.

Climate Futures Tool (CSIRO) • Climate Explorer Tool (NOAA)	These scenarios are used to evaluate potential steps in IPL's decarbonisation pathway & to seek out & evaluate strategic business opportunities created by the energy transition and the challenges our customers will face due to climate change. They are also used to stress test long term strategic business decisions which may not relate directly to climate change but may be impacted by it. Inputs to the IPL-specific 2D & 4D scenarios include the following: • The IEA new policies scenario was selected due to IPL being both a high energy user & a supplier of explosives for thermal & MET coal mining. This scenario was used to arrive at a 4D scenario regarding the likely global energy mix generation including gas pricing, solar hydrogen, peaking capacity & penetration of renewables in the electricity generation sector in the USA and Australia, where our manufacturing facilities are located. Natural gas (CH4) is presently used by IPL as a feedstock for explosives and fertiliser manufacture (to make hydrogen for ammonia – NH3 - production). Both gas price and new (alternative) technologies to manufacture hydrogen for ammonia are key strategic considerations for IPL. • For similar reason to the above, the BNEF NEO was used as a base scenario which was then flexed with IEA and IPCC AR5 inputs to credibly avoid 2 degrees of warming to arrive at the likely natural gas and energy mix, including gas pricing, solar hydrogen, peaking capacity and penetration of renewables in the electricity generations sector in the USA and Australia under a 2D scenario. • RCP 2.6, 4.5 and 6 provide the different warming pathways (and therefore physical risks) which were used to test our organisation against. The 2D climate change scenario describes a future to 2050 in which rapid action is taken globally to reduce carbon emissions and limit the degree of global warming to 2 degrees Celsius above pre-industrial levels, including a $100 global carbon price, value or equivalent financial incentive by 2025 and a rapid decline in demand for thermal coal beginning in 2019. Low carbon technologies are developed for transport and energy, including

	renewable hydrogen, which is competitive with natural gas by 2040. In response, IPL has formed the Decarbonisation & Energy Transition Steering Committee to develop the Company's Net Zero Pathway & leverage policy incentives to decarbonise its manufacturing operations. The business is also strategically managing a shift away from supplying US thermal coal customers to quarry & construction and metals mining customers. The 4D climate change scenario assumes limited and/or ineffective policy or action to limit emissions, resulting in 'run-away' climate change and an average temperature increase of between 2.6°C & 4.8°C by 2100. This results in extreme weather events which are likely to impact primarily on IPL's supply chains (but also directly on some sites) & increased periods of drought leading to water shortages in some catchments. Strategic responses include moving to eliminate single source suppliers, increasing site storage & developing detailed contingency plans where supply chains are expected to be impacted by flooding (e.g. the Phosphate Hill rail line). To manage expected water shortages our Gibson Island site is being connected to a recycled water supply in 2021.

C3.3

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Climate change considerations have been built into our Core Strategic Drivers. 'Customer Focus' and providing 'Leading Technology Solutions' is a key driver for our business and we recognise the importance of developing and delivering products and services which enable our customers to reduce their greenhouse gas emissions, as well as partnering with research institutions to share and develop knowledge (see R&D below). • Case Study: Re-evaluating business strategy and developing new Enhanced Efficiency Fertilisers (EEFs) to reduce GHG emissions from farming: IPL's 2D scenario analysis identified that a $100 price on carbon emissions by 2025 and a significant change in farming practices would be

		required to limit global warming to 2D Risk 4). An opportunity analysis identified a high likelihood of increased demand for EEF fertilisers which reduce GHG emissions during their use, allowing our customers to reduce their exposure to carbon pricing. Our Incitec Pivot Fertiliser (IPF) business, which operates in eastern Australia, has responded by announcing that its new 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. The strategy will be leveraged through IPF's expansive distribution footprint to drive new growth products and services towards soil health, including EEFs. Our eNpower™ product was released in 2019. Like our Green Urea® & Entec® products, eNpower™ is specially formulated to retain nutrients in more stable forms for longer periods, increasing plant nutrient uptake and reducing volatilisation losses to the atmosphere as GHG.
Supply chain and/or value chain	Yes	IPL's 2D and 4D scenario analyses identified the likelihood of an increase in the incidence and severity of disruptions to IPL's supply chains due to physical impacts, beginning in the short-term. In response, IPL moved to reduce our reliance on single source suppliers and increased stocks where a single source supply chain risk remained. • Case Study: Ensuring DET NET component supply where supply chains are at risk of disruption due to climate change: Specialist components for IPL's Dyno Nobel DET NET explosives initiating systems are manufactured by a JV in South Africa. IPL's RCP based 2 and 4D scenarios both describe a likelihood of impacts to ports due to the increased incidence of extreme weather events, beginning in the short term, with extreme impacts in the medium to long term in the 4D scenario. In response, IPL's supply chain team stockpiles a 6-month supply of components in the US in the event that supply is interrupted. This strategy was tested during 2020 when the SA export port became congested due to COVID-19 impacts, with no resulting impact on US production. • Case Study: Ensuring continued production and product delivery at Phosphate Hill, where logistics are at risk of interruption due to climate change: IPL's Phosphate Hill ammonium phosphate manufacturing facility is remotely located in north west Queensland, Australia and is serviced by a single third-party operated rail line. This supply chain was identified as being at risk of increased incidence of

		flooding by IPL's RCP based 2 and 4D scenarios, beginning in the short term, with more extreme impacts in the medium to long term in the 4D scenario. IPL altered the supply chain strategy by emptying product storage tanks and sheds at the site and stockpiling product at our Townsville Port site in advance of the summer wet season each year. This strategy allows production at Phosphate Hill (and customer supply out of Townsville) to continue throughout a rail outage of up to three weeks. In 2019 a one-in-one-hundred-year flooding event damaged the third-party rail infrastructure, washing out rail sections and rail bridges which had to be rebuilt. As a result of this event, increased storage capacity has been built at the Phosphate Hill site and a response plan to switch quickly from rail to road freight for transfer product out of the site has been developed, and weather is monitored.
Investment in R&D	Yes	The development and adoption of low carbon manufacturing technologies has been built into our 'Manufacturing Excellence' strategy. Low carbon manufacturing technologies have been identified as both a risk management strategy for carbon pricing impacts and an opportunity for revenue increase associated with premium 'low carbon' products. • Case Study: Investigating Solar Hydrogen: The IPL 2D scenario estimates that a US$100 price on carbon would be required by 2025 to limit global warming to less than 2 degrees (Risk 4). The 4D scenario describes a future in which global carbon pricing never emerges and carbon pricing is established in only some jurisdictions, which presents a risk that IPL's manufacturing facilities in the US & Australia may become uncompetitive due to this cost. In response to these risks, and also to mitigate the physical impacts of climate change (Risks 1,2,5,6) IPL is developing a Net Zero Pathway as part of our Climate Change Management strategy. In line with this and drive by our Manufacturing Excellence & Profitable Growth Strategic Drivers, in 2020 we completed a $2.7m feasibility study, supported by the Australian Renewable Energy Agency. The study assessed the potential to use renewable hydrogen to increase ammonia production at our manufacturing facility at Moranbah, Queensland. Rather than being made from natural gas, renewable hydrogen can presently be made at very small plants using solar energy to split water into hydrogen and oxygen, allowing ammonia to be produced without the GHG associated with natural gas. The aim of the feasibility study was to determine whether

		renewable hydrogen can be made at an industrial scale, and at a commercially competitive price. Our study found that solar ammonia at an industrial scale was technically viable and a facility was designed that could reliably provide a continuous supply of renewable hydrogen suitable for ammonia manufacturing. However, commercial feasibility requires either a price premium for the solar ammonia; a reduction in renewable energy prices; and/or an increase in grant funding of approximately A$395m, or approximately 60% of the estimated capex. We are proud to have contributed valuable knowledge to the development of a renewable hydrogen industry in Australia and continue to investigate potential research partnerships towards its use.
Operations	Yes	The IPL 2D scenario estimates that a US$100 price on carbon would be required by 2025 to limit global warming to less than 2 degrees (Risk 4). The 4D scenario describes a future in which global carbon pricing never emerges and carbon pricing is established in only some jurisdictions, which presents a risk that IPL's manufacturing facilities in the US & Australia may become uncompetitive due to this cost. The 4D scenario described sever physical impacts from climate change if GHG are not reduced. This has led to our CEO's strategic decision to form the Decarbonisation and Energy Transition Steering Committee (DETSC), which is Chaired by the IPL CEO, and includes the President Global Manufacturing & Corporate HSE, VP Strategic Project Development, CFO and Corporate Sustainability Manager. The DETSC is overseeing the development IPL's Net Zero Pathway and the identification and investigation of new/emerging technologies and major capital projects that will be required to substantially reduce emissions in our hard-to-abate chemical manufacturing processes. In 2020, the DETSC set an absolute GHG reduction target of 5% by 2026 against a 2020 baseline for IPL globally as part of IPL's Climate Change Management strategy. This target is linked to the executive remuneration of the CEO and the President Global Manufacturing & Corporate HSE, who is responsible for the operational changes required to reach the target.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Capital expenditures Capital allocation	• Capital allocation has been influenced by the risk of carbon pricing. The IPL 2D scenario estimates that a US$100 price on carbon would be required by 2025 to limit global warming to less than 2 degrees (Risk 4). The 4D scenario describes a future in which global carbon pricing never emerges and carbon pricing is established in only some jurisdictions, which presents a risk that IPL's manufacturing facilities in the US & Australia may become uncompetitive due to this cost. The 4D scenario described sever physical impacts from climate change if GHG are not reduced. This has led to our CEO's strategic decision to form the Decarbonisation and Energy Transition Steering Committee (DETSC), which is Chaired by the IPL CEO, and includes the President Global Manufacturing & Corporate HSE, VP Strategic Project Development, CFO and Corporate Sustainability Manager. The DETSC is overseeing the development IPL's Net Zero Pathway and the identification and investigation of new/emerging technologies and major capital projects that will be required to substantially reduce emissions in our hard-to-abate chemical manufacturing processes. Capital allocation has been influenced, with approximately AU$800,000 allocated to the VP Strategic Engineering via the DETSC for project development related costs in 2021 to investigate and identify projects to meet IPL's 5% absolute reduction target. • Capital expenditures have been influenced by the physical risks of climate change to operations (Risk 1). The 2D and 4D scenarios describe the acute impacts of climate change increasing in the short term, with more extreme impacts in the medium to long term in the 4D scenario. Capital expenditures have been made to manage these impacts. For example, during 2020, AU$3,634,971 was invested in increasing product storage capacity to manage the risk of production interruptions at our remote Phosphate Hill site in Australia due to flooding. This site is serviced by a single third-party operated rail line which has been identified as being at increasing risk of extreme flooding events associated with the summer monsoon in the short-term. Flooding events in the area have been increasing and have interrupted rail services which transport product out of the site. Once storage capacity is reached, production must be halted, leading to the Capex investment in increased storage.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

C4. Targets and performance

C4.1

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

Both absolute and intensity targets

C4.1a

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

Target reference number

Abs 1

Year target was set

2020

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (location-based)

Base year

2020

Covered emissions in base year (metric tons CO2e)

3,616,740

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2026

Targeted reduction from base year (%)

5

Covered emissions in target year (metric tons CO2e) [auto-calculated]

3,435,903

Covered emissions in reporting year (metric tons CO2e)

3,616,740

% of target achieved [auto-calculated]

0

Target status in reporting year

New

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

Target ambition

Please explain (including target coverage)

During 2020 IPL set a global Scope 1+2 absolute GHG reduction target of 5% by 2026 against our 2020 baseline. This is supported by our commitment to the investigation, identification and implementation of one or more projects to reduce our global emissions by 200,000 tCO2e which is equal to ~5% of our global 2020 emissions. IPL's total global 2020 emissions were 3,616,740 tCO2e. The 2020 GHG baseline is subject to adjustment due to unforeseen future expansions and acquisitions or divestments which may occur before the end of the 2026 IPL financial year.

We have reported we do not expect to set a SBT in the next two years. This is because the SBTi methodology for the chemical sector is still in development and therefore currently not available for use under the sectoral decarbonisation approach. IPL will consider the setting of a SBT once the methodology is released for use.

C4.1b

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

Target reference number

Int 1

Year target was set

2017

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1

Intensity metric

Metric tons CO2e per metric ton of product

Base year

2015

Intensity figure in base year (metric tons CO2e per unit of activity)

2.14

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

71

Target year

2020

Targeted reduction from base year (%)

6

Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]

2.0116

% change anticipated in absolute Scope 1+2 emissions

9.7

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year (metric tons CO2e per unit of activity)

1.9

% of target achieved [auto-calculated]

186.9158878505

Target status in reporting year

Achieved

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

Target ambition

Please explain (including target coverage)

A reduction in CO2e per tonne of ammonia produced globally from 2.15 to 2.00 (6%) by 2019 was set in 2017 against a 2015 baseline. This was achieved in 2019 and exceeded in 2020. A new 5% absolute reduction target was set in 2020 (see Abs 1 above).

C4.2

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

No other climate-related targets

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	12	500,000
To be implemented*	5	11,806
Implementation commenced*	0	0
Implemented*	5	365
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Low-carbon energy generation

Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

114.52

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

25,158

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

159,263

Payback period

4-10 years

Estimated lifetime of the initiative

21-30 years

Comment

Rooftop Solar PV installation at IPL's Dyno Nobel Initiating Systems manufacturing site in Helidon, Australia. This installation generates ~129,991 carbon free kWh per year for internal use and exports ~11,397 carbon free kWh per year into the grid for use by others.

Initiative category & Initiative type

Low-carbon energy generation
Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

56

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

10,469

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

141,337

Payback period

11-15 years

Estimated lifetime of the initiative

21-30 years

Comment

Rooftop Solar PV installation at IPL's Incitec Pivot Fertiliser Product Distribution Centre in Townsville, Australia.
This installation generates ~54,326 carbon free kWh per year for internal use and exports ~9,342 carbon free kWh per year into the grid for use by others.

Initiative category & Initiative type

Energy efficiency in buildings

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

33

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

5,000

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

32,587

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

This project upgraded the lighting in the Granulation Plant at IPL's Phosphate Hill ammonium phosphate manufacturing facility in remote north Queensland, Australia. The more efficient lighting reduces energy use by 50,000 kWh per year, reducing the natural gas burned in our on-site gas fired power plant (Scope 1 emission).

Initiative category & Initiative type

Energy efficiency in production processes

Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)

109

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

10,470

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

97,339

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

Installation of a VFD controlled water pump to replace a less efficient water pump. This saves 140,000 kWh per year of purchased electricity.

Initiative category & Initiative type

Energy efficiency in buildings
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

5

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

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

1,047

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

279

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

Motion sensor lights installed in IPL's Dyno Nobel Distribution Centre Warehouse at Gregory, Kentucky in the US turn off lighting when it is not required, saving 8,000 kWh per year in purchased electricity.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

0.3

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

2,094

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

670

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Installation of steam traps on the Dryer Building at IPL's Dyno Nobel Distribution Centre Warehouse at Gregory, Kentucky in the US saves 5.28 GJ of natural gas annually.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

20

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

1,100

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

997

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

This project involves the installation of pulse valves on vibratory bowls to reduce compressed air consumption. One has been installed and the figures reported above are for that single installation. 10 more installations are possible, with each saving another 25,105 kWh of purchased electricity per year.

Initiative category & Initiative type

Energy efficiency in production processes
Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)

64.6

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

3,000

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

149,778

Payback period

>25 years

Estimated lifetime of the initiative

21-30 years

Comment

A boiler (at end of life) at IPL's Dyno Nobel facility in Simsbury Connecticut was replaced with a more efficient gas fired boiler which runs on natural gas instead of fuel oil. The relatively low energy and tCO2e saved are due to the boiler's use as a back-up boiler which only runs for a small portion of the year.

C4.3c

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

Method	Comment
Dedicated budget for low-carbon product R&D	Our fertiliser and explosives manufacturing businesses have a dedicated R&D budget for product development which includes research and development of slow release (reduced nitrous oxide emitting) fertiliser products and reduced energy explosives products and delivery systems.
Internal incentives/recognition programs	Consistent improvement in energy efficiency, which also reduces IPL's greenhouse gas emissions, is a key part of BEx (Business Excellence) process reviews across our manufacturing business, with quarterly MD&CEO Values Awards program recognising team and individual efforts. Annual bonuses are also linked to the performance goals of energy managers, facility managers and Executive Team members.
Employee engagement	Consistent improvement in energy efficiency is a key part of BEx (Business Excellence) process review across our manufacturing business. BEx (Business Excellence) is IPL's continuous improvement system and engages our employees by involving them directly in the implementation of 'best practice' in their own work areas. Employees at all levels of our business are encouraged to think laterally, to share their experiences and ideas, and to participate in implementing improvements, resulting in outcomes which are highly valued by both the business and our employees.
Financial optimization calculations	Due to the high cost of energy to our business, which includes the use of gas as both an energy source and a feedstock, consistent improvement in energy efficiency not only reduced greenhouse gas emissions, but also delivers costs savings.
Other	The use of best available energy efficiency technologies in plant upgrades and the design and construction of new manufacturing facilities. This reduces both our energy use, which is a major cost to our business, and the greenhouse gases associated with this energy use. The technology used in the new Waggaman, Louisiana Ammonia Plant underpinned IPL's intensity reduction target of a 2% reduction in tCO2e per tonne of ammonia produced in 2017 against a 2015 baseline.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

Green Urea NV products contain urea treated with the urease inhibitor, N-(n-butyl) thiophosphoric triamide (NBPT), which delays hydrolysis of urea into unstable forms that may be lost to the atmosphere, thereby reducing emissions related to fertiliser usage.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Thapa, R., Chatterjee, A., Awale, R., McGranahan, D. & Daigh, A. (2016) Effect of Enhanced Efficiency Fertilizers on Nitrous Oxide Emissions and Crop Yields. Soil Science Society of America Journal. 80. 1121–1134. 10.2136/sssaj2016.06.0179.

% revenue from low carbon product(s) in the reporting year

1

Comment

Losses of nitrous oxide (N2O, a potent greenhouse gas) to the atmosphere have been shown to be reduced by more than 50% during trials, but are difficult to standardise across applications due to being affected by precipitation and application techniques. To help address the quantification and reduction of N2O emissions in land-based agriculture, Gold Standard intends to develop a methodology for reduced/avoided N2O emissions from the management of nitrogen-based fertilisers in agricultural activities. The proposed scope of methodology includes the application of Enhanced Efficiency Fertilisers (“EEF”) using nitrification and urease inhibitors, such as our Green Urea products. We anticipate that this will provide IPL with a methodology to be able to reliably estimate and report reductions in our Scope 3 emissions due to sales of this product in the future.

IPL also provides agronomy services and education to customers to increase knowledge and maximise emissions reductions.

Level of aggregation

Group of products

Description of product/Group of products

Entec® is a fertiliser treatment that retains nitrogen in the stable ammonium form for an extended period. This reduces nitrogen losses to leaching (waterways) and denitrification (losses to the atmosphere as the GHG N2O) while conserving more nitrogen for plant uptake. Both trials and customer use continue to demonstrate the potential for significant reductions in GHG as well as yield increase with the use of Entec (see page 35-42 of the Australian Sugarcane Annual 2016 and Less Nitrogen Lost is More Gain in Cane, also in the Australian Canegrower, Sept 2017).

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Thapa, R., Chatterjee, A., Awale, R., McGranahan, D. & Daigh, A. (2016) Effect of Enhanced Efficiency Fertilizers on Nitrous Oxide Emissions and Crop Yields. Soil Science Society of America Journal. 80. 1121–1134. 10.2136/sssaj2016.06.0179.

% revenue from low carbon product(s) in the reporting year

1

Comment

Losses of N2O (a potent greenhouse gas) to the atmosphere are estimated to be reduced by a conservative 50%, but are difficult to quantify due to being affected by precipitation and application techniques. To help address the quantification and reduction of N2O emissions in land-based agriculture, Gold Standard intends to develop a methodology for reduced/avoided N2O emissions from the management of nitrogen-based fertilisers in agricultural activities. The proposed scope of methodology includes the application of Enhanced Efficiency Fertilisers (“EEF”) using nitrification and urease inhibitors, such as our Entec® products. We anticipate that this will provide IPL with a methodology to be able to reliably estimate and report reductions in our Scope 3 emissions due to sales of this product in the future.

IPL also provides agronomy services and education to customers to increase knowledge and maximise emissions reductions.

Level of aggregation

Product

Description of product/Group of products

In 2019, IPL commercialised a new patented enhanced efficiency ammonium phosphate fertiliser which aims to reduce nitrogen losses to the air as GHG and to waterways through leaching. Developed in IPF’s own research laboratories, eNpower™ 18:20 contains the nitrification inhibitor DMP in IPF’s patented DMP-G formulation. DMP works by inhibiting nitrifying bacteria in the soil to slow down the conversion of ammonium N to nitrate, which is more prone to losses to waterways or to air as GHG.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Thapa, R., Chatterjee, A., Awale, R., McGranahan, D. & Daigh, A. (2016) Effect of Enhanced Efficiency Fertilizers on Nitrous Oxide Emissions and Crop Yields. Soil Science Society of America Journal. 80. 1121–1134. 10.2136/sssaj2016.06.0179.

% revenue from low carbon product(s) in the reporting year

1

Comment

Losses of N2O (a potent greenhouse gas) to the atmosphere are estimated to be similar to our other EEFs. To help address the quantification and reduction of N2O emissions in land-based agriculture, Gold Standard intends to develop a methodology for reduced/avoided N2O emissions from the management of nitrogen-based fertilisers in agricultural activities. The proposed scope of methodology includes the application of Enhanced Efficiency Fertilisers (“EEF”) using nitrification and urease inhibitors, such as our Entec® products. We anticipate that this will provide IPL with a methodology to be able to reliably estimate and report reductions in our Scope 3 emissions due to sales of this product in the future.

IPL also provides agronomy services and education to customers to increase knowledge and maximise emissions reductions.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

October 1, 2014

Base year end

September 30, 2015

Base year emissions (metric tons CO2e)

2,349,535

Comment

Scope 2 (location-based)

Base year start
October 1, 2014

Base year end
September 30, 2015

Base year emissions (metric tons CO2e)
355,916

Comment

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Australia - National Greenhouse and Energy Reporting Act
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Emissions & Generation Resource Integrated Database (eGRID)

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
3,319,416

Comment

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

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

Comment

C6.3

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

Reporting year

Scope 2, location-based

297,324

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Emissions from offsite transport of product in North America

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

Very low materiality (estimated to be less than 1% of total emissions).

Source

Emissions from electricity used in small remote offices and despatch sites in North America.

Relevance of Scope 1 emissions from this source

No emissions from this source

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

Very low materiality (estimated to be less than 1% of total emissions).

Source

Emissions from operations in Chile.

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

Very low materiality (estimated to be less than 1% of total emissions).

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,428,213

Emissions calculation methodology

Calculation methodology: Total tonnes purchased of each material was extracted from IPL's internal purchasing system for the financial year period. A Scope 3 emissions factor specific to each material was then applied per tonne. See references below:
• 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-technicalcalculation-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
• 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
• LCI data for the calculation tool Feedprint for greenhouse gas emissions of feed production and utilization: GHG Emissions of N, P and K fertilizer production, Blonk Consultants 2012; https://www.blonkconsultants.nl/wp-content/ uploads/2016/06/fertilizer_production-D03.pdf

Boundary: This category covers emissions generated upstream of IPL's operations associated with the manufacture of purchased fertilisers, explosives and chemical products. 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. 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. Chemical products traded by our subsidiary, Quantum Fertilisers Limited, between companies outside of the IPL Group have not been included.

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

0

Please explain

No emissions calculations were provided by suppliers or value chain partners because our systems do not currently track the manufacturer of the commodities purchased and emissions factors are available elsewhere (see references above).

Capital goods

Evaluation status

Not relevant, explanation provided

Please explain

Not material. Not calculated.
Based on industry intensity factors applied to IPL's annual capital goods expenditure, emissions from this category are not considered to be material.

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

Evaluation status

Relevant, calculated

Metric tonnes CO2e

577,394

Emissions calculation methodology

Calculation methodology: Total energy and fuels purchased (volumes) have been multiplied by a Scope 3 emission factor specific to each fuel (see references below).
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.

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
• 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
• World Resources Institute Greenhouse Gas Inventory Manual, Category 3: Fuel and Energy-Related Activities; https://www.wri.org/sustainability-wri/dashboard/methodology#category-3

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.

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

0

Please explain

No emissions calculations were provided by suppliers or value chain partners because our systems do not currently track the manufacturer of the commodities purchased and emissions factors are available elsewhere (see references above).

Upstream transportation and distribution

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

120,282

Emissions calculation 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 contactors.

References:
• RightShip Carbon Accounting; https://www.rightship.com/products/sustainability-products/
• 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
• United States Environmental Protection Agency Center for Corporate Climate Leadership, Emission Factors for Greenhouse Gas Inventories (2020), Table 8 - Scope 3 Category 4: Upstream Transportation and Distribution and Category 9: Downstream Transportation and Distribution; https://www.epa.gov/sites/production/files/2020-04/ghg-emission-factors-hub.xlsx
• Guidelines for Measuring and Managing CO2 Emissions from Freight Transport Operations; European Chemical Transport Association;

https://www.ecta.com/resources/Documents/Best%20Practices%20Guidelines/guideline_for_measuring_and_managing_co2.pdf

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).

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

66

Please explain

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. These made up 66% of our upstream transportation and distribution GHG emissions.

Waste generated in operations

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

6,396

Emissions calculation methodology

Calculation Methodology: This is not a material source of Scope 3 emissions in IPL's value chain, however detailed waste data was available due to the annual collection of global, site-by-site waste tonnes for sustainability reporting from the operations over which IPL has operational control. 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):
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

Boundary: This category includes Scope 3 emissions associated with all of the waste generated by the operations over which IPL has operational control.

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

40

Please explain

For wastes generated by our Australian sites, the supplier-specific method was used, whereby a national waste contractor supplied waste-specific emissions factors.

Business travel

Evaluation status

Not relevant, explanation provided

Please explain

This source is not considered to be material. (Hire car use in Australia is included in IPL's Scope 1 emissions reporting in order to comply with National Greenhouse and Energy Reporting legislation and made up 0.04% of Australian Scope 1 emissions in 2020.)

Employee commuting

Evaluation status

Not relevant, explanation provided

Please explain

This source is not considered to be material.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

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.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

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 load 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.

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 due to very low materiality and unavailability of data. Emissions associated with storage at third party distributors have not been included due to very low materiality and unavailability of data.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

IPL manufactures and sells fertilisers and explosives which are typically consumed during their use by the customer.

Use of sold products

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

3,838,401

Emissions 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). 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.

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-technicalcalculation-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: N2O Emissions From Managed Soils, and CO2 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
• LCI data for the calculation tool Feedprint for greenhouse gas emissions of feed production and utilization: GHG Emissions of N, P and K fertilizer production, Blonk Consultants 2012; https://www.blonkconsultants.nl/wp-content/uploads/2016/06/fertilizer_production-D03.pdf

Calculation Boundary: This category includes the calculation of Scope 3 emissions associated with the end use of fertilisers and explosives 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. Chemical products traded by our subsidiary, Quantum Fertilisers Limited, between companies outside of the IPL Group have not been included. IPL sells some industrial chemicals which have not been included, as their downstream uses, and the emissions factors associated with these, are unavailable. These emissions are not considered to be material and are estimated to be less than 1% of IPL's Scope 3 emissions.

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

0

Please explain

No emissions calculations were provided by suppliers or value chain partners because (a) in the case of fertiliser use, farmers are unfamiliar with emissions factors and reliable emissions factors are available elsewhere (see references above); and
(b) in the case of explosives use, IPL (as the manufacturer of the specific explosives formulas supplied to mining and quarry & construction customers) is therefore the source of the emissions factors.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

IPL manufactures and sells fertilisers and explosives which are typically consumed during their use by the customer

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Leasing of downstream assets is not a material part of IPL's business.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

IPL has no franchised operations.

Investments

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

110,000

Emissions calculation methodology

Calculation methodology: The accounting approach for 'equity investments' as described in the Scope 3 Guidance is used to calculate these emissions. Estimates of scope 1 and 2 emissions for each investment (which form the basis of scope 3 emissions in IPL's value chain) were 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.

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
• 2019 IPL Annual Report; https://investors.incitecpivot.com.au/static-files/2eddba76-2047-4d13-ae66-/2eddba76-2047-4d13-ae66-/2eddba76-2047-4d13-ae66-60a9315d4f12
• 2020 IPL Annual Report; https://investors.incitecpivot.com.au/static-files/ae193d4c-d2c5-4bf8-a37e-f570c0e19c0d

Calculation Boundary: This category includes the scope 1 and 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.) IPL's non-operated joint ventures relevant to the 2020 reporting year are described on page 105 the IPL 2020 Annual Report. Only joint ventures engaged in emissions intensive manufacturing activities have been included the calculation of emissions from this category.

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

100

Please explain

While no data was sourced directly from joint venture partners, estimates of scope 1 and 2 emissions for each investment (which form the basis of scope 3 emissions in IPL's value chain) were sourced from publicly available information reported by joint venture partners, including the most recently available government-published data required for mandatory or voluntary reporting programs in place in the country, state or region in which the joint ventures are located, the most recent reports published by the operating entity e.g. sustainability and annual reports; and/or other sources as identified through desktop research.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

IPL has no other material upstream sources.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

IPL has no other material downstream sources.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

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

Intensity figure

0.0009174

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

3,616,740

Metric denominator

unit total revenue

Metric denominator: Unit total

3,942,200,000

Scope 2 figure used

Location-based

% change from previous year

6.1

Direction of change

Increased

Reason for change

Increased production resulted in higher GHG, while revenues remained similar to last year.

Intensity figure

29,309.08

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

3,616,740

Metric denominator

Other, please specify

Net Profit (AU$ millions)

Metric denominator: Unit total

123.4

Scope 2 figure used

Location-based

% change from previous year

32

Direction of change

Increased

Reason for change

Increased production resulted in higher GHG, while net profit fell due to the impact of increased taxes.

Intensity figure

0.9518

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

3,616,740

Metric denominator

metric ton of product

Metric denominator: Unit total

3,800,000

Scope 2 figure used

Location-based

% change from previous year

2

Direction of change

Decreased

Reason for change

More efficient production due to less production interruption the pervious reporting period.

C7. Emissions breakdowns

C7.1

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

Yes

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	2,704,168	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	6,037	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	609,201	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	10	IPCC Fourth Assessment Report (AR4 - 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Australia	1,540,702
North America	1,775,687
Turkey	3,027

C7.3

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

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Incitec Pivot Fertilisers	926,286
Dyno Nobel Explosives	2,393,130

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

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

	Gross Scope 1 emissions, metric tons CO2e	Comment
Chemicals production activities	3,319,416	The amount reported here includes emissions from activities at facilities operated by IPL which supported chemicals production and distribution. These include IPL administration buildings, and fertiliser distribution sites under IPL operational control.

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Australia	147,399	0	176,264	0
North America	149,329	0	396,047	0
Turkey	596	0	910	0

C7.6

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

By business division

C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Incitec Pivot Fertilisers	144,510	0
Dyno Nobel Explosives	152,814	0

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

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Chemicals production activities	297,324	0	The amount reported here includes emissions from activities at facilities operated by IPL which supported chemicals production and distribution. These include IPL administration buildings, and fertiliser distribution sites under IPL operational control.

C-CH7.8

(C-CH7.8) Disclose the percentage of your organization's Scope 3, Category 1 emissions by purchased chemical feedstock.

Purchased feedstock	Percentage of Scope 3, Category 1 tCO2e from purchased feedstock	Explain calculation methodology
Natural gas	3	IPL uses natural gas (CH4) as both an energy source and a feedstock for hydrogen, which is used to make to make ammonia (NH3). Total natural gas used as feedstock vs energy is obtained from internal plant meters and/or the chemical formulas which govern the amount of hydrogen (and therefore natural gas: CH4) required to make a tonne of ammonia, and is reconciled back to invoiced amounts of natural gas purchased. Amounts of natural gas used for feedstock (in GJ) have been multiplied by the Scope 3 emission factor specific natural gas in the Australian National Greenhouse and Energy Reporting legislation/Technical Guidelines. The resulting tCO2e is described as a percentage of our total Scope 3 tCO2e.

C-CH7.8a

(C-CH7.8a) Disclose sales of products that are greenhouse gases.

	Sales, metric tons	Comment
Carbon dioxide (CO2)	170,142	At four manufacturing facilities, IPL captures a pure CO2 stream which arises from the use of natural gas as a feedstock to make hydrogen for ammonia manufacture. Some of this CO2 is sold to make melamine, and some is sold for industrial and food industry use. Total sales are reported here.
Methane (CH4)	0	IPL does not sell CH4
Nitrous oxide (N2O)	0	IPL does not sell N2O
Hydrofluorocarbons (HFC)	0	IPL does not sell HFCs
Perfluorocarbons (PFC)	0	IPL does not sell PFCs
Sulphur hexafluoride (SF6)	0	IPL does not sell SF6
Nitrogen trifluoride (NF3)	0	IPL does not sell NF3

C7.9

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

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (%)	Please explain calculation
Change in renewable energy consumption	170.52	Decreased	0.005	Rooftop solar PV installations at Helidon and Townsville in Australia: (114.52+56) = 170.52/3,387,513 = 0.005%
Other emissions reduction activities	78,899	Decreased	2.3	Moranbah replacement of abatement of N2O equipment carried out in 2019 reporting year (78,705) + Phos Granny Plant lighting upgrade (109) + Simsbury boiler replacement (65) + Pulse valve installation (20) =78,899/3,387,513 = 2.3%
Divestment	0	No change	0	
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	310,622	Increased	9.2	Production increases resulted in increased emissions in FY 2020. Production increased in 2020 FY (from FY 2019) due to recovery of production capacity which was lost to impacts in 2019. These 2019 impacts were unscheduled outage at Waggaman, Louisiana (WALA) and flooding of a third-party rail line at Phosphate Hill (PHOS) which resulted in production interruptions. 167,590 WALA increase in production in FY20 +143,032 PHOS increase in production in FY 20 = 310,622/3,387,513 = 9.2%
Change in methodology	0	No change	0	

Change in boundary	0	No change	0	
Change in physical operating conditions	0	No change	0	
Unidentified	0	No change	0	
Other	0	No change	0	

C7.9b

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

Location-based

C8. Energy

C8.1

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

More than 5% but less than or equal to 10%

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	5,874,810	5,874,810
Consumption of purchased or acquired electricity		170,300	402,926	573,226
Consumption of self-generated non-fuel renewable energy		68,457.59		68,457.59
Total energy consumption		238,758	6,277,737	6,516,494

C-CH8.2a

(C-CH8.2a) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	5,874,810
Consumption of purchased or acquired electricity		573,226
Consumption of self-generated non-fuel renewable energy		68,457.59
Total energy consumption		6,516,494

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)
Natural Gas

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
5,782,905

MWh fuel consumed for self-generation of electricity
877,016

MWh fuel consumed for self-generation of heat
4,905,889

Emission factor
51.33

Unit
kg CO2e per GJ

Emissions factor source
The Australian NGER legislation (based on AR5 100 year) default emission factor of 51.33 kg CO2e/GJ for natural gas is used for all of the natural gas used for energy (to generate heat). Emissions factors for natural gas consumption at our three Australian sites are determined using the actual gas composition at each site which is measures by gas chromatography according to NGER Method 2. These were 49.38, 50.11 and 49.97 for the reporting period.

Comment

Fuels (excluding feedstocks)
Diesel

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
89,127

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

Emission factor

0.0027

Unit

metric tons CO2e per litre

Emissions factor source

The Australian NGER legislation (based on AR5 100 year) default emission factor of 2.70972 tCO2e per kL of diesel is used globally.

Comment

Diesel fuel is consumed for applications including transport fuels, process plant and equipment.

Fuels (excluding feedstocks)

Petrol

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

1,951

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

Emission factor

0.00238

Unit

metric tons CO2e per litre

Emissions factor source

The Australian NGER legislation (based on AR5 100 year) default emission factor of 2.38374 tCO2e per kL of petrol is used globally.

Comment

Petrol fuel is consumed almost exclusively for transport fuels.

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

827

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

32

Emission factor

Unit

Emissions factor source

The Australian NGER legislation (based on AR5 100 year) default emission factor of 1.53943 tCO2e per kL of LPG is used globally.

Comment

C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	329,052	329,052	68,458	68,458
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C-CH8.2d

(C-CH8.2d) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.

	Total gross generation (MWh) inside chemicals sector boundary	Generation that is consumed (MWh) inside chemicals sector boundary
Electricity	329,052	68,458
Heat	0	0
Steam	0	0
Cooling	0	0

C-CH8.3

(C-CH8.3) Does your organization consume fuels as feedstocks for chemical production activities?

Yes

C-CH8.3a

(C-CH8.3a) Disclose details on your organization's consumption of fuels as feedstocks for chemical production activities.

Fuels used as feedstocks

Natural gas

Total consumption

980,804.94

Total consumption unit

thousand cubic metres

Inherent carbon dioxide emission factor of feedstock, metric tons CO2 per consumption unit

1.95

Heating value of feedstock, MWh per consumption unit

0.03

Heating value

HHV

Comment

In the interests of providing good data, in order to be able to use emissions factors as determined under NGER without conversions, and in order to be able to incorporate the differing range of HHVs, densities and composition of the different natural gas and coal

seam natural gas sources used at our different manufacturing plants located across the US and Australia, we request that CDP kindly include the option of 'GJ' for unit selection (rather than volumetric measurements) for natural gas in this question.

IPL uses NGER emissions factors for its natural gas globally, which are tCO2e per GJ.

C-CH8.3b

(C-CH8.3b) State the percentage, by mass, of primary resource from which your chemical feedstocks derive.

	Percentage of total chemical feedstock (%)
Oil	0
Natural Gas	100
Coal	0
Biomass	0
Waste (non-biomass)	0
Fossil fuel (where coal, gas, oil cannot be distinguished)	0
Unknown source or unable to disaggregate	0

C9. Additional metrics

C9.1

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

C-CH9.3a

(C-CH9.3a) Provide details on your organization's chemical products.

Output product

Ammonia

Production (metric tons)

1,551,799

Capacity (metric tons)

1,780,000

Direct emissions intensity (metric tons CO2e per metric ton of product)

1.9

Electricity intensity (MWh per metric ton of product)

0.496

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

IPL manufactures (rather than buys in) it's ammonia. Ammonia is an energy intensive product.

Output product

Nitric acid

Production (metric tons)

869,523

Capacity (metric tons)

900,000

Direct emissions intensity (metric tons CO2e per metric ton of product)

0.69

Electricity intensity (MWh per metric ton of product)

0

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

Our nitric acid plants are net exporters of energy to other manufacturing processes, therefore have zero electricity intensity.

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

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

	Investment in low-carbon R&D	Comment
Row 1	Yes	IPL's internal R&D relates mostly to the development of products which reduce our customer's emissions during their use (our Scope 3 emissions), Although this is not asked for in the question below, we have included this research.

C-CH9.6a

(C-CH9.6a) Provide details of your organization's investments in low-carbon R&D for chemical production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Other, please specify Low GHG emitting fertilisers	Applied research and development	21 - 40%		IPL has been developing and marketing enhanced efficiency fertilisers which have been shown to reduce GHG emissions to the atmosphere (as nitrous oxide) for approximately 10 years, with applied research currently ongoing. Gold Standard has announced their intention to begin work in 2021 on the development of a methodology to quantify and generate carbon credits for the GHG abated through the use of these products.
Other, please specify Low GHG emitting fertilisers	Large scale commercial deployment	21 - 40%		IPL estimates a capital investment of approximately $1 million, with training and promotional costs of approximately $2 million (when employee costs are included) in the large-scale commercial deployment of our Green Urea NV, Entec and eNpower products, which continue to demonstrate the potential for significant reductions in GHG during their use. Gold Standard has announced their intention to begin work in 2021 on the development of a methodology to quantify and generate carbon credits for the GHG abated through the use of these products.

Other, please specify Differential EnergyTM explosives technology	Large scale commercial deployment	21 - 40%		Differential EnergyTM 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, allowing the operator to load multiple densities of gassed emulsion into 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 amount of 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 use of Differential Energy continues to result in reduced GHG as well as reduced energy use, NOx emissions, dust, noise and ground vibration and increased productivity while reducing overall costs for our mining customers.
Radical process redesign	Basic academic/theoretical research	21 - 40%	2,700,000	In line with our commitment to reducing our GHG emissions and driven by our Manufacturing Excellence and Profitable Growth Strategic Drivers, we completed a AU$2.7 million feasibility study, supported by the Australian Renewable Energy Agency (ARENA), to assess the potential to use renewable hydrogen to increase ammonia production at our manufacturing facility at Moranbah, Queensland. Rather than being made from natural

				gas, renewable hydrogen can presently be made at very small plants using solar energy to split water into hydrogen and oxygen, allowing ammonia to be produced without the GHG associated with natural gas. The aim of the feasibility study is to determine whether renewable hydrogen can be made at an industrial scale at a commercially competitive price. The results have been published by ARENA. Key Findings: • Our study found that solar ammonia at an industrial scale was technically viable and a facility was designed that could reliably provide a continuous supply of renewable hydrogen suitable for ammonia manufacturing. The design uses an off-grid (behind-the-meter) solar energy supply, with 160MW of electrolysis capable of producing approximately 25% of Moranbah's ammonia production. • Such a facility can be cash flow positive at A$2.00 per kg of hydrogen. However, to achieve a 5% return on equity contribution, the project would require A$395m in grant funding, or approximately 60% of the estimated capex. • Economic displacement of purchased ammonia at Moranbah requires solar hydrogen to be produced at A$2.00 per kg – at 5% return on investment it was found to be $4.09 per kg. • Commercial feasibility

				therefore requires either: – a price premium for the solar ammonia; – a reduction in renewable energy prices; and/or – an increase in grant funding. We are proud to have contributed valuable knowledge to the development of a renewable hydrogen industry in Australia and continue to investigate potential partnerships and pathways towards its use.

C10. Verification

C10.1

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

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

C10.1a

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance

Limited assurance

Attach the statement

IPL NGER Limited Assurance Opinion 2019_final signed_28102019.pdf

IPL FY2020 NGER Limited Assurance Report_final signed 29102020.pdf

Page/ section reference

Page 1: "Conclusion:"
~50% of IPL's Scope 1 GHG (100% of Australian Scope 1) is verified as part of the Limited Assurance Opinion provided by Deloitte on an annual basis for our National Greenhouse and Energy Report (NGER). Since this is completed on a June 30 year-end, and the CDP reporting year is the Company financial year (Sept 30 year-end), this assurance is currently partially completed for the data in this report. This report and the previous annual report are attached.

Relevant standard

Other, please specify
ASAE3410

Proportion of reported emissions verified (%)

46

C10.1b

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

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance

Limited assurance

Attach the statement

IPL NGER Limited Assurance Opinion 2019_final signed_28102019.pdf
IPL FY2020 NGER Limited Assurance Report_final signed 29102020.pdf

Page/ section reference

Page 1: "Conclusion:"
~50% of IPL's Scope 2 GHG (100% of Australian Scope 2) is verified as part of the Limited Assurance Opinion provided by Deloitte on an annual basis for our National Greenhouse and Energy Report (NGER). Since this is completed on a June 30 year-end, and the CDP reporting year is the Company financial year (Sept 30 year-end), this

assurance is currently partially completed for the data in this report. This report and the previous annual report are attached.

Relevant standard

Other, please specify

ASAE3410

Proportion of reported emissions verified (%)

50

C10.2

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

Yes

C10.2a

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ASAE 3140	48% of IPL's energy use (100% of our Australian energy use) is verified as part of the Limited Assurance Opinion provided by Deloitte on an annual basis for our National Greenhouse and Energy Report (NGER). Since this is completed on a June 30 year-end, and the CDP reporting year is the Company financial year (Sept 30 year-end), this assurance is currently partially completed for the data in this report. The assurance statement attached includes the energy assurance to June 30 2020: See Page 1: "*Conclusion:* *Dear Directors* *Re: Limited assurance engagement report on Incitec Pivot Limited's energy and emissions report (the 'NGER Report') in accordance with Section 19 of the National Greenhouse and Energy Reporting Act 2007 (the 'NGER Act') for the reporting period ended 30 June 2020.* *Please find herewith our limited assurance report and detailed findings in respect of Incitec Pivot Limited's ('IPL') NGER Report in accordance with the Standard on Assurance Engagements ASAE 3410 Assurance Engagements on Greenhouse Gas Statements*

			('ASAE 3410') issued by the Auditing and Assurance Standards Board, and the National Greenhouse and Energy Reporting (Audit) Determination 2009 ('NGER Audit Determination'). *Reporting Requirements:* *Total scope 1 emissions for audited body:* *1,509,346 tCO2-e* *Total scope 2 emissions for audited body* *148,752 tCO2-e* *Total energy consumption for audited body* *30,837,220 GJ* *Total energy production for audited body* *1,170,391 GJ*

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

Australia ERF Safeguard Mechanism - ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Australia ERF Safeguard Mechanism

% of Scope 1 emissions covered by the ETS

46

% of Scope 2 emissions covered by the ETS

0

Period start date

July 1, 2020

Period end date

June 30, 2021

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO2e

1,491,491

Verified Scope 2 emissions in metric tons CO2e

148,752

Details of ownership

Facilities we own and operate

Comment

Three of IPL's manufacturing facilities in Australia are captured under the Australian ERF Safeguard Mechanism. These three sites make up more than 99.8% of IPL's Australian Scope 1 emissions and 90.0% of IPL's total (Scope 1 + 2) GHG emissions. Scope 2 emissions are verified under NGER but not included in the ETS.

C11.1d

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

The IPL Corporate Sustainability Manager chairs the Carbon Pricing Steering Committee (CPSC). The CPSC comprises manufacturing, strategy, finance, treasury and energy contract management personnel across our global sites. The CPSC, through the Sustainability Manager and VP Strategic Projects, continually monitor emerging carbon pricing developments and inform the Decarbonisation and Energy Transition Steering Committee (chaired by the CEO) and the Board of relevant compliance requirements and market opportunities. (For example, the emerging 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 engaging with the relevant regulatory body and report back to the CPSC).

Our compliance procedure for the ERF Safeguard Mechanism is set out in the IPL Carbon Accounting Policy (Australia):
• Engineering and accounting specialists in our three Australian ERF Safeguard Mechanism-captured manufacturing facilities are responsible for implementing compliance plans to facilitate ongoing compliance.
• Site based accountants are responsible to collect monthly emissions data to track progress against site baselines and report to treasury on a monthly basis. In the event of an exceedance, a specific reporting process and management response is triggered.
• Treasury is responsible to monitor the carbon market/ACCU price and source any ACCUs which may be required.
• The Sustainability Manager is responsible to surrender any ACCUs required to settle a liability as directed by Treasury.

Our strategy for maximising opportunities related to carbon pricing schemes is managed by the VP Strategic Projects and the Sustainability Manager, as members of both the CPSC and the DETSC. The strategy includes:
• Quantifying and understanding our emissions sources;
• Identification of the required technologies to reduce these emissions as part of our Net Zero Pathway;
• Examining our exposure to current, emerging and likely future carbon pricing schemes and incentives;
• Use of an internal carbon price to evaluate CAPEX applications;
• Identification of site-based opportunities for GHG reduction capital projects and external partnerships, particularly in jurisdictions where financial incentives (such as carbon credits or tax credits) can be used to improve the business case; and
• Regular reporting of opportunities to the DETSC for consideration.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit origination

Project type

Energy efficiency: industry

Project identification

ERF107285: Dyno Nobel Moranbah Deaerator Energy Recovery Project

Verified to which standard

Emissions Reduction Fund of the Australian Government

Number of credits (metric tonnes CO2e)

22,336

Number of credits (metric tonnes CO2e): Risk adjusted volume

11,000

Credits cancelled

No

Purpose, e.g. compliance

Not applicable

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Navigate GHG regulations

Identify and seize low-carbon opportunities

Other, please specify

Assess CAPEX applications

GHG Scope

Scope 1

Application

Facilities

Actual price(s) used (Currency /metric ton)

18

Variance of price(s) used

Market (supply and demand)

Type of internal carbon price

Implicit price

Impact & implication

• The internal carbon price is included in CAPEX applications to assess the risk of future carbon pricing costs associated with projects. For example, a project to increase the capacity of ammonia production at our Moranbah site included an internal price on carbon to assess the potential cost of increased GHG emissions under future schemes where baselines were reduced under the ERF Safeguard Mechanism. This ensures that low carbon designs for the expansion are being considered.

• The internal carbon price is used to improve the IRR of low carbon capital investments such as those relating to renewable energy. For example, IPL applied its internal carbon price when assessing two Rooftop Solar Installations at Helidon and Townsville to improve the IRR, resulting in the projects proceeding to installation in 2020, where they otherwise would not have met CAPEX hurdles.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

C12.1a

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

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

4

% total procurement spend (direct and indirect)

5

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

4

Rationale for the coverage of your engagement

We have engaged with our shipping suppliers to collect information regarding the energy efficiency and GHG emissions of ships for two reasons:
1. Because our vessel selection partner, Rightship, rates ships on a scale from A to F regarding fuel efficiency and GHG emissions;
2. Because Rightship quantifies our Scope 3 shipping GHG using an internationally recognised standard (EN16258:2012); and
3. Because Rightship's ship rating tool allows us to reduce our Scope 3 emissions by selecting more efficient ships for our freight.

Impact of engagement, including measures of success

The Rightship GHG methodology uses the standard European energy efficiency scale and allows emissions to be benchmarked and tracked per journey and over time and the methodology has been verified according to an internationally recognised standard (EN16258:2012). This allows us to reliably quantify the scope 3 GHG associated with our global shipping.
Since we began using the Rightship GHG emissions rating system in 2016, we have reduced our emissions per tonne of cargo by 8%. In 2020, 32% of our ships were rated A or B, and 84% were rated D and above. We used no F or G rated ships in 2019 or 2020.

We will continue to take up similar engagements with other suppliers as they become available.

Comment

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Offer financial incentives for suppliers who reduce your upstream emissions (Scopes 3)

% of suppliers by number

4

% total procurement spend (direct and indirect)

5

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

4

Rationale for the coverage of your engagement

We have engaged with our shipping suppliers because our vessel selection partner, Rightship, rates ships on a scale from A to F regarding fuel efficiency and GHG emissions, allowing us to reward higher efficiency, low GHG ship owners with more trade by selecting them for our shipping over low efficiency-high emitting operators. This allows us to influence the shipping sector in transitioning to more efficient low GHG ships.

Impact of engagement, including measures of success

The Rightship GHG methodology uses the standard European energy efficiency scale and allows emissions to be benchmarked and tracked per journey and over time and the methodology has been verified according to an internationally recognised standard (EN16258:2012). This allows us to reliably quantify the scope 3 GHG associated with our global shipping.

Since we began using the Rightship GHG emissions rating system in 2016, we have reduced our emissions per tonne of cargo by 8%. In 2020, 32% of our ships were rated A or B, and 84% were rated D and above. We used no F or G rated ships in 2019 or 2020.

Comment

C12.1b

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

Type of engagement

Collaboration & innovation

Details of engagement

Other, please specify

Customer trials of our enhanced efficiency fertiliser, Entec, which reduces nitrogen losses to the atmosphere as N2O (a GHG) and to waterways through leaching.

% of customers by number

2

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

95

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

Emissions from fertiliser use on farm make up 95% of our Scope 3 emissions from this 'customer use' category, and 60% of our total Scope 3 emissions. Our Enhanced Efficiency Fertiliser (EEF) range, which includes ENTEC treated fertilisers, are products specifically formulated to reduce Nitrogen (N) losses as N2O, a GHG, and to waterways through leaching, which can impact on aquatic life and reef health. Customer trials allow IPL to demonstrate and quantify GHG reductions on farms.

Impact of engagement, including measures of success

Research has demonstrated that using nitrogen stabilisers, such as ENTEC®, can provide crop growers with additional help in guarding against potential nitrogen losses to the atmosphere as GHG (as N2O) and can also therefore improve nitrogen use efficiency. Applied to ammonium and urea-based fertilisers, ENTEC works by delaying the activity of the bacteria, which oxidise ammonium to the nitrate form of nitrogen, for a period of time. While the nitrogen is stabilised in the ammonium form in the soil, it is safe from denitrification, resulting in less volatilisation to the atmosphere as GHG and less leaching losses to waterways. In addition, the crop can still access the stabilised nitrogen in the soil, resulting in increased yields. A two-year trial co-funded by DAFF and the Victorian DPI demonstrated consistent reductions in nitrous oxide emissions by around 60% when ENTEC was applied to NPK and urea-based fertilisers. Broccoli trials at Werribee and Boneo recorded yield increases of between 8% and 59% respectively from adding ENTEC to the base fertiliser (Nitrophoska®). These results highlight great potential for ENTEC in improving nitrogen use efficiencies, reducing greenhouse gas emissions, and achieving equivalent if not improved yields for a better bottom line for farming customers.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Trade associations

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

No

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Our highest governing body is the Board of Directors. The Board is responsible for charting the direction, policies, strategies and financial objectives of the Company. The IPL Climate Change Policy was endorsed by the Board and describes how the management of climate change-related issues is incorporated into the Company's six Strategic Agenda Value Drivers. Day-to-day management of Company affairs and the implementation of the corporate strategy and policy initiatives are formally delegated to the Managing Director and CEO. Responsibility for climate change strategy and governance resides with the Executive Team, advised by the Corporate Sustainability Manager, The Carbon Pricing Steering Committee (CPSC, which is Chaired by the Corporate Sustainability Manager) and the Decarbonisation and Energy Transition Steering Committee. The DETSC is tasked with developing the Company's Net Zero Pathway and to manage the risks and strategic opportunities associated with climate change. The DET Steering Committee comprises selected executives including the CFO and the Chief Technology Development Officer, and management including the President Global Manufacturing and HSE, the VP Strategic Project Development and the Sustainability Manager.

• The CEO Chairs the DET SC and, as the person with Board delegated authority to implement the corporate strategy and policy initiatives, is responsible for managing climate-related issues.
• The CFO is a member of the DET SC due to the financial and strategic aspects of the management of climate change, and because the IPL Chief Risk Officer reports to the CFO.
• The Chief Technology Development Officer (CTDO) is an expert in strategy, product development and new technologies and is tasked with overseeing the development of the IPL Net Zero Pathway, including the development of low carbon products and services, the evaluation and prioritisation of developing technologies to decarbonise IPL's manufacturing operations, and the integration of these into company strategy.
• The inclusion of the CEO, CFO and CTDO on the DETSC provides alignment with company strategy and the financial performance and financial processes for the Company.
• In addition (and as per IPL Policy), no statements are made to external parties without IPL legal review. This legal review ensures that all statements align with IPL strategies approved by

the Board. These statements include, but are not limited to, formal submissions regarding proposed government policies, statements to media organisations and formal statements to trade associations.

C12.4

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

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

2020 IPL Sustainability Report.pdf
IPL Climate Change Policy_2019.pdf
2020 IPL_SR_GRI Index and Data.pdf

Page/Section reference

Sustainability Report References:
• Governance and Board Oversight: p 22-23.
• Risk assessment process and scenarios: p 22-23.
GRI Index and Data (supplement to the Sustainability Report) references:
• Climate related risks and opportunities and management approach: p 14-17.
• Table of TCFD Recommended Disclosures: p 18
• Metrics used to assess and manage climate related risks and opportunities: p 19
Climate Change Policy
• Integration of climate change issues into company strategy: p 1-2

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

For a detailed index to these disclosures see the 'Table of TCFD Recommended Disclosures', p 18 of the 2020 IPL GRI index and data supplement to the Sustainability Report.

C15. Signoff

C-FI

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

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Financial Officer (CFO)	Chief Financial Officer (CFO)

Submit your response

In which language are you submitting your response?

English

Please confirm below

I have read and accept the applicable Terms