Welcome to your CDP Water Security Questionnaire 2021

W0. Introduction

W0.1

(W0.1) Give a general description of 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 over 2,000 staff in Australia and over 2,400 staff in North America. IPL manufactures a range of fertiliser inputs and products including ammonium phosphates, ammonia, urea, sulphuric acid and superphosphates at five manufacturing sites across eastern Australia and is the only manufacturer of ammonium phosphates and urea in Australia.

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. It operates 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.

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.

IPL recognises that building a sustainable future requires the sustainable management of the production of infrastructure, food, clothing, shelter and energy that people need every day. As a manufacturer and supplier of fertilisers, which are used to grow more food and fibre on existing land, and explosives products, which are used for mining, construction and quarrying, we recognise that our role in value creation relates directly to several UN Sustainability Goals,

including ‘Responsible Consumption and Production’, ‘Decent Work and Growth’ and the production of food for a growing population (‘Zero Hunger’).

We also recognise the need to balance our economic performance with our environmental and social responsibilities. Those responsibilities include being a good corporate citizen and operating ethically. They include ensuring good governance in our day-to-day business activities and behaving with honesty and integrity in our interactions with communities, employees, customers, and the environment.

W-CH0.1a

(W-CH0.1a) Which activities in the chemical sector does your organization engage in?

Bulk inorganic chemicals

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	October 1, 2019	September 30, 2020

W0.3

(W0.3) Select the countries/areas for which you will be supplying data.

Australia
Canada
Mexico
Turkey
United States of America

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

AUD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Small distribution and emulsion manufacturing sites across North America	Data is not presently available for water use at these sites, and it is expected that withdrawals are not material. For example, each emulsion manufacturing site in Australia currently uses less than 0.5% of IPLs total water withdrawal.
Offices and other administration buildings across North America that are distribution related and are not situated at manufacturing sites	Data is not presently available for water use at these sites, and amounts are not expected to be material, as offices and other administration buildings would use much less than an emulsion manufacturing site, and each emulsion manufacturing site in Australia currently uses less than 0.5% of IPLs total water withdrawal.
Operations in Chile	Data is not presently available for water use at these sites, and amounts are not expected to be material.

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Not very important	IPL's manufacturing operations require high quality water for cooling systems and boilers (low calcium and silica), so have historically been built in areas where access to water is assured. IPL typically has access to regulated municipal water supply or abundant fresh surface water or groundwater as regulated by the local EPA. For example, our Louisiana, Missouri (LOMO) site is located on the Mississippi River, and our St Helens, Oregon site is located on the Columbia River. Cooling water also requires very low sediment levels, so even fresh surface (river) water is typically treated onsite prior to use. Where sites are not located near abundant freshwater supplies, long-term supply agreements are put in place. For example, our Moranbah, Australia site is supplied by Sunwater, who operates 19 dams

			and 1,951 kilometres of pipeline. Sunwater stores, captures and delivers around 40 per cent of the water used commercially in Queensland to more than 5000 customers.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Neutral	IPL's Gibson Island site, located in Brisbane, Australia, is being connected to a recycled water source in 2021. This will reduce baseline water stress on the local municipal water supply.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites /facilities /operations	Please explain
Water withdrawals – total volumes	76-99	99% of our total water withdrawal volumes are collected via municipal water invoices, river water meters, groundwater meters, on-site storm water treatment plant meters, and on-site water recycling treatment plant meters for all manufacturing sites under operational control except for those listed at question W0.6a. (North American administrative buildings, some very small distribution sites in north America and several emulsion manufacturing sites in north America and Chile, each of which do not use a lot of water). IPL collects this data to enable our global water use to be understood, and water intensity factors to be calculated. For our company, 'sites' and/or 'facilities' refers to all of our sites and includes major manufacturing sites (which require large volumes of high quality fresh water) minor manufacturing sites (which require less water) and distribution and office/admin sites, which require much less water.
Water withdrawals – volumes by source	76-99	Because 99% of our total water withdrawal volumes are collected via municipal water invoices, river water meters, groundwater meters, on-site storm water treatment plant meters, and on-site water recycling treatment plant meters for all manufacturing sites under operational control except for those listed at question W0.6a. (administrative buildings, some very small distribution sites and several emulsion manufacturing sites which do not use a lot of water), water source is also easy to monitor.

Water withdrawals quality	51-75	Due to the high quality of water required for non-contact cooling purposes, our St. Helens, Cheyenne, and Waggaman ammonia manufacturing sites all test the surface and groundwater withdrawn on a routine basis (not a continuous basis). These sites represent 71% of our total global water withdrawal and 30% of our nitrogen manufacturing sites.
Water discharges – total volumes	100%	Water discharge volumes are collected via discharge meters at 100% of IPL sites which discharge. This is typically required, along with regular reporting, by regulators who have granted the associated licence to discharge. In Australia, all sites are 'non-discharge to the environment' sites with the exception of a single site, in Brisbane, Australia, where water passes through treatment before being discharged to surface waters. At these 'non-discharge to the environment' sites, cooling water is recycled multiple times until it evaporates.
Water discharges – volumes by destination	100%	Water discharge volumes are collected via discharge meters at 100% of IPL sites which discharge, allowing destinations to also be recorded. This is typically required, along with regular reporting, by regulators who have granted the associated licence to discharge. With the exception of a single site, all Australian sites are 'non-discharge to the environment' sites.
Water discharges – volumes by treatment method	100%	Water discharge volumes are collected via discharge meters at each site, along with the treatment method used before that water volume is discharged, at 100% of sites which discharge.
Water discharge quality – by standard effluent parameters	100%	Water discharge quality parameters are measured at each site, as demanded by the licence requirements at each site, from 100% of sites which discharge. Typical parameters include those below: COD (mg/L) BOD (mg/L) TSS (mg/L) NO3-N (mg/L) SO4 (mg/L/day) pH (SU) Additional metrics can be included at specific sites. For example, at our Cheyenne, Wyoming ammonium nitrate manufacturing site, parameters also include the following due to the nature of the site and associated licence/permit requirements: UREA (mg/L) TDS (mg/L)

		NO3-N (mg/L) NH3-N (mg/L) MTBE (mg/L) Methanol (mg/L)
Water discharge quality – temperature	76-99	All ammonia manufacturing sites that discharge clean, non-contact cooling water to surface waters (rivers) monitor the temperature of the discharge. This makes up 95% of our total discharge. The ammonia manufacturing site which discharges to groundwater (deep well injection) also tests the temperature of the water quarterly: this makes up 1% of our total discharge. These sites together make up 76% percent of our manufacturing sites that discharge and 96% of our total discharge.
Water consumption – total volume	76-99	Water consumption is calculated by subtracting the total volume of water returned to its original source as 'clean water' from the total water withdrawn from all sites under operational control except for those listed at question W0.6a. One site collects and treats rainfall and snow melt from its site, along with other water, before discharge. This means that some rainfall and snow melt volumes are included in total discharge figures.
Water recycled/reused	1-25	Water recycled/reused is only monitored at sites where on-site water treatment plants are used during the reuse/recycling, which allows these quantities to be meter read. All Australian IPL ammonia manufacturing sites recycle cooling water multiple times, and high nutrient waters are often reused in product making. This recycling of water is not monitored and is therefore not included in our total reported recycled/reused water.
The provision of fully-functioning, safely managed WASH services to all workers	100%	All of our sites provide access to clean facilities and drinking water for employees. IPL sites are located in jurisdictions where 'Unimproved (no drinking water)' and 'Unimproved (no sanitation) are less than 2.5%, as rated by the WRI Aqueduct Tool (Australia, USA Canada and Europe). One site, in Dinamita, Mexico, is located in a region rated by the Tool as 'Medium - High (5-10%)' for unimproved (no sanitation)'. This site provides access to clean sanitation facilities and drinking water for employees as per other IPL sites.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	43,853	Lower	Total withdrawals this reporting period were 4% less than the previous reporting year. More than 95% of this total withdrawal is used as non-contact cooling water, with the remainder used for steam, manufacturing facility washing purposes (equipment), product making and administration and amenities.
Total discharges	29,737	Lower	2% less than the previous reporting year. 98.7% of our total global discharge was non-contact cooling water which was treated and returned as clean water to the surface waters from which it was taken. The remaining 1.3 percent was deep well injected at our Cheyenne, Wyoming and St Helens, Oregon sites. Total discharge excludes sewage, the discharge of collected rainwater at most sites and waste water removed for treatment or disposal as liquid waste. However, it includes some discharge of rainwater/snowmelt where runoff is collected and treated at several sites in North America, and therefore cannot be separately metered.
Total consumption	14,115	Lower	6% less than the previous reporting year. Total consumption is withdrawals - discharge.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	1-10	About the same	WRI Aqueduct	The WRI Aqueduct Tool is used to assess IPL's water risk because it is the most comprehensive tool available for use and projects to 2030 and 2040. The Tool identifies 'Baseline Water Stress' as 'the ratio of total annual water withdrawals to total available annual renewable supply, accounting for upstream consumptive use. Higher values indicate more competition among users.' Using the current reporting year data analysis (as described in W1.2) and the geographic locations of our 22 global major and minor manufacturing sites, the tool identifies no IPL site as 'Extremely high >80%' but does identify three sites as 'High 40-80%' in relation to water stress.' These three sites are all located in Australia at Geelong (Victoria), Helidon (Queensland) and Gibson Island (Brisbane, Queensland). These three sites withdrew 2,108,259 kL of water in 2020, which is 4.8% of IPL's total global water (collected as described in W1.2). The total water withdrawal at these three sites is obtained from invoices and storm water recycling treatment plants onsite at Gibson Island and Geelong, and has been included in this calculation. All of these sites draw water from the catchments in which they are located. Two of these three sites do not manufacture ammonia, and therefore do not require large volumes of water. However, the Gibson Island site in Brisbane uses large volumes of cooling water for ammonia manufacture.

					AU$4million is being invested in a pipeline to connect this site to a recycled municipal water source in 2021. The Geelong site uses recycled storm water via an onsite WTP, which provided 28,985 kL of recycled water for use in the reporting period. Note: The WRI Tool identified no IPL sites as being located in areas identified as higher than 'Low-Medium' in regard to 'Baseline Water Depletion'.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

Source and Relevance		Volume (ML/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	32,589.25	About the same	2% lower, which is within normal year to year variation due to production differences. This source is relevant due to the large volumes of river water used as single pass non-contact cooling water at our St Helens OR, Louisiana MO and Waggaman LA ammonia manufacturing sites. A smaller amount of storm water (62.36 ML) captured for use has been included in this total. Future trends in withdrawal are expected to be very similar, as these plants run 24/7, 365 days a year unless a maintenance outage is scheduled (every 4 years).
Brackish surface water/Seawater	Relevant	1.01	About the same	This source is relevant due to a small amount of desalinated water use at our Dinamita, Mexico IS manufacturing plant. Future trends in withdrawal are expected to be very similar.
Groundwater – renewable	Relevant	6,794.12	Lower	4% less than the previous reporting period, which is within normal year to year variation due to production differences.

				This source is relevant due to the large volumes of ground water used for all site uses, including cooling, at our Cheyenne WY and remotely located Phosphate Hill site in northwest Queensland. Future trends in withdrawal are expected to be very similar, as these plants both run 24/7, 365 days a year unless a maintenance outage is scheduled (every 4 years).
Groundwater – non-renewable	Not relevant			
Produced/Entrained water	Not relevant			
Third party sources	Relevant	4,469.54	Higher	7% more water was used from this source in the reporting period. This source is relevant: approximately half is municipal water, with 2,029.6 ML purchased from a private water supplier for cooling use at our Moranbah, Queensland site. Future trends in withdrawal from this source are expected to be around 10% lower due to our Gibson Island site, which presently uses ~370 ML municipal water for cooling towers, being connected to a recycled water supply in 2021.

W1.2i

(W1.2i) Provide total water discharge data by destination.

Source and Relevance		Volume (ML/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	29,356.6	Lower	2% less, which is considered normal year on year variation. ML discharged are sourced from direct measurement by meter. This amount includes discharge of some rainwater/snowmelt where runoff is collected and treated at several sites in North America, and therefore cannot be separately metered. This can affect year-on-year comparisons. Future trends in discharge to surface water are expected to be very similar, as these plants both run 24/7, 365 days a year unless a maintenance outage is scheduled (every 4 years). 98.7% of our global discharge is clean treated non-contact cooling water, which is returned to the rivers from which it was taken.
Brackish surface water/seawater	Not relevant			
Groundwater	Relevant	380.18	Lower	2% less, which is considered normal year on year variation. ML are sourced from direct measurement by meter. Future trends in discharge to ground water are expected to be very similar.
Third-party destinations	Relevant	0.67	About the same	This destination includes municipal wastewater plants, public or private utilities, which treat the water. There is no use of our discharge water at third party destinations (other than use of the treated water as a recycled water source, which may occur at some utilities).

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

Treatment type and relevance of treatment level to discharge		Volume (ML/y)	Volume comparison with previous reporting year	% of facilities this volume applies to	Please explain
Tertiary treatment	Relevant	615.36	About the same	11-20	• Future volumes are expected to remain consistent. • Due to the incorporation of sewage as a small part of total waste water, and under EPA licensing, the Gibson Island site in Brisbane, Australia uses a tertiary treatment WWTP then a natural wetland settling pond, where most water is evaporated. Small releases to the river mouth are only made in times of high rainfall when storm water volumes result in the wetland settling pond reaching capacity. • Storm water released from our Geelong site is treated by a Reverse Osmosis WWTP to remove high nutrient levels before release. Most of the treated water is reused, but some is released under EPA licence conditions. • A small amount of groundwater extracted at our St Helens site is treated by a Reverse Osmosis WTP plant before being mixed with clean cooling water which is then returned to the river under EPA licence conditions. (• 80% of our sites are non-discharge to the environment sites.)
Secondary treatment	Not relevant				• Future volumes are expected to remain a zero with no discharged water being treated with secondary treatment as the highest level. Our sites which discharge use primary treatment, or secondary followed by tertiary. (• 80% of our sites are non-discharge to the environment sites.)

Primary treatment only	Relevant	27,825.56	About the same	11-20	• Future volumes are expected to remain consistent. • Primary treatment is used for the majority of our cooling water because the water is of a high quality when withdrawn and is used in as non-contact cooling water, meaning the quality is unaffected during use, with only heat exchange occurring. • At our Louisiana, Missouri facility, river water is filtered then returned to the Mississippi River under EPA licence conditions. • At our St Helens plant, the river water is put through an oil-water separator filter before being returned to the Columbia River under EPA licence conditions. • At our Cheyenne, Wyoming facility groundwater is sand filtered before deep well injection regulated by EPA licence conditions. The quality of the groundwater on extraction is very high (drinking water standard). (• 80% of our sites are non-discharge to the environment sites.)
Discharge to the natural environment without treatment	Not relevant				• IPL discharges no untreated water to the environment (• 80% of our sites are non-discharge to the environment sites.)
Discharge to a third party without treatment	Relevant	1,296.53	About the same	Less than 1%	• All discharge from our Waggaman, Louisiana site is sent to a neighbouring chemical plant to which we also pipe captured CO2 for melamine manufacture. This water involves multiple waste streams and is therefore treated by a tertiary WWTP by the chemical company (on-site) before release to the Mississippi River under EPA licence conditions.
Other	Not relevant				100% of our discharge is reported above in other categories.

W-CH1.3

(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?

Yes

W-CH1.3a

(W-CH1.3a) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

Product type

Bulk inorganic chemicals

Product name

Product manufactured for sale (metric tonnes)

Water intensity value (m3)

3.8

Numerator: water aspect

Freshwater consumption

Denominator

Other, please specify

metric tonnes manufactured for sale

Comparison with previous reporting year

Lower

Please explain

Intensity reported is 'net water use' per 'metric tonne of product manufactured for sale' which has increased by 13.5%. This decrease in water intensity is due to the impact of several unplanned outages at major manufacturing sites (Waggaman, Louisiana and Phosphate Hill in Australia) during the previous reporting year, which impacted on 2019 efficiencies.

W1.4

(W1.4) Do you engage with your value chain on water-related issues?

No, we do not engage on water with our value chain

W1.4d

(W1.4d) Why do you not engage with any stages of your value chain on water-related issues and what are your plans?

	Primary reason	Please explain
Row 1	Important but not an immediate business priority	Water use at several of our own facilities is a material issue, which we are addressing ahead of suppliers.

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

No

W3. Procedures

W-CH3.1

(W-CH3.1) How does your organization identify and classify potential water pollutants associated with its activities in the chemical sector that could have a detrimental impact on water ecosystems or human health?

IPL operates under a Global Health, Safety and Environment Management System which sets out guidelines on the Group's approach to environmental management, including a requirement for sites to undertake Environmental Site Assessments. Potential water pollutants are identified at each location as part of the comprehensive risk management process governed by the IPL HSEC Management System. Once identified, potential water pollutants are classified and managed using the information on Safety Data Sheets (SDS). This information includes ecotoxicity, persistence and degradability and environmental fate (exposure).

We have a governance structure in place that oversees the management of our environmental impacts:
• The Board's Health, Safety, Environment and Community (HSEC) Committee assists the Board in its oversight of health, safety, environment and community matters arising from our activities as they may affect employees, contractors, and the local communities in which we operate.

• The Zero Harm Council, chaired by our Managing Director & CEO and consisting of members of the Executive Team, is accountable for reviewing health, safety and environmental performance.
• The Zero Harm Council is supported by Zero Harm Councils within each business unit, down to site level. These Councils are chaired by the business unit head to provide leadership on health, safety and environment. Business Unit Councils meet monthly and report to the Executive Team. Within each of our business units, operations staff and project teams are responsible for preparing and executing plans to support environmental targets and strategies.
• Site managers are responsible for the operation of their site, including their environmental performance. Environmental managers within the business provide site managers with expertise to support the day-to-day environmental management of sites.

IPL is also subject to environmental regulation under the jurisdiction of the countries in which we operate including Australia, United States of America, Mexico, Canada and Turkey. These environmental laws and regulations generally address the potential aspects and impacts of our activities in relation to, among other things, air and noise quality, soil, water, biodiversity and wildlife. In certain jurisdictions, the Group holds licences for some of our operations and activities from the relevant environmental regulator. We measure our compliance with such licences and report statutory non-compliances as required. For example, in relation to water discharge, all USA manufacturing sites have individual permits which specify the contaminants and levels allowed for Drinking Water, NPDES Discharge to rivers; or Underground Injection. These individual discharge limitations are developed by the agencies using the Code of Federal Regulations (CFR), which contains limits according to business type and amount of production.

Our Australian fertiliser products comply with Fertilizer Australia Codes of Practice, including the National Code of Practice for Fertilizer Description and Labelling. Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria, are available for all range products. The SDS include advice on the safe use, storage and handling of the product, and its disposal. Labels are attached to the package, or the Delivery Docket for bulk deliveries. Label information and SDS can also be accessed on the Incitec Pivot Fertilisers website, along with other technical information, including advice on Farm Safety when handling Bulk Bags and storing fertiliser in silos, information on product density and sizing, and the company's Quality Policy, which is included for use in our farming customers' Quality Assurance programs.

We provide support to our explosives customers to assist them in choosing the right product and blast plan to minimise environmental impacts and our Dyno Consult business provide documentation and advice to our customers about:
• Product content, particularly with regard to substances that might produce an environmental or social impact.
• Safe use, storage and handling of the product.
• Disposal of the product as required by applicable law.
This advice is supplied on our websites, on the product label, in the Safety Data Sheet (SDS) or directly to the customer via training sessions. Our Australian labelling complies with the requirements of the SafeWork Australia Code of Practice for Labelling of Workplace Hazardous Chemicals and our Australian SDS comply with the requirements of SafeWork Australia. Our

North American labelling meets the requirements of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) and our North American SDS comply with the Mine Safety and Health Administration (MSHA) for products destined for the mining industry.

W-CH3.1a

(W-CH3.1a) Describe how your organization minimizes adverse impacts of potential water pollutants on water ecosystems or human health. Report up to ten potential pollutants associated with your activities in the chemical sector.

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
Ammonium nitrate	Direct operations Distribution network Product use	Ecotoxicity: Ammonium nitrate is of low toxicity to aquatic life. Spills may cause algal blooms in static waters. Persistence and degradability: When released into the soil, ammonium nitrate is not expected to evaporate significantly, but is expected to leach into groundwater. In damp soil the ammonium ion, NH4+, is adsorbed by the soil. When released into water, ammonium nitrate is expected to readily biodegrade; the nitrate ion, NO3-, is mobile in water. The nitrate ion is the predominant form of plant nutrition. It follows the natural nitrification/denitrification cycle to give nitrogen. Environmental fate (exposure): Low toxicity to aquatic life. TLm 96 between 10 – 100 ppm. No effects on growth or feeding activities were observed in largemouth bass and channel catfish exposed	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Human Health and Safety: • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • • Supply of specialist knowledge in product use via our technical support teams and our Dyno

		to concentrations of 400 mg NO3-/L. Acute Toxicity to Fish: 48 hr LC50 (Cyprinus carpio): 1·15 - 1·72 mg un-ionised NH3/L; 95 – 102 mg total NH3/L; 96 hr LC50 (Chinook Salmon, rainbow trout, bluegill): 420 -1,360 mg NO3-/L; TLm (Tadpoles): 910 mg NH3/L. Chronic Toxicity to Fish 7 day LC50 (Fingerling rainbow trout): 1,065 mg/L. Acute Toxicity to Aquatic Invertebrates EC50 (Daphnia magna): 555 mg/L; 124·9 mg total NH3/L. Chronic Toxicity to Invertebrates Up to 7 days NOEC (Bullia digitalis): 300 mg/L. Classification (Australia): CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA GHS classifications: Serious Eye Damage / Eye Irritation: Category 2A		Consult business. At many customer sites IPL employees handle the product as specialist contractors during use. Environmental Health: Although of low toxicity to aquatic life, ammonium nitrate can cause algal bloom, and therefore potential eutrophication, in still waterways due to provision of nitrate ions, which are the predominant form of plant nutrition. Measures to prevent spillage, leaching and leakages include, but are not limited to: • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • On site spill kits • Procedures for transportation • • Supply of specialist knowledge in product use via our technical support teams and our Dyno Consult business. At many customer sites IPL employees handle the product as specialist contractors during use.
Ammonia based granulated fertilisers (ammonium phosphates)	Direct operations Distribution network Product use	Diammonium phosphate and monoammonium phosphate fertilisers contain nitrogen and phosphorus, both of which can stimulate weed and algal growth if lost to static surface waterways.	Compliance with effluent quality standards Measures to prevent spillage,	Human Health and Safety: • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals.

		Algae affect water quality and taste. Depending on the concentration and species, ammonium may be toxic to fish. In the soil, ammonium is converted to nitrate. Nitrate is susceptible to leaching and may contaminate groundwater. High nitrate concentrations (above 10mg/L) may render water unsuitable for human and livestock consumption. Classification (Australia): NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. No signal word, pictograms, hazard or precautionary statements have been allocated.	leaching, and leakages Providing best practices instructions on product use	• Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria, and labelling compliant with the National Code of Practice for Fertilizer Description and Labelling. Environmental Health: Although of low toxicity to aquatic life, ammonia based fertilisers, the nutrients (nitrates and phosphates) in ammonia based fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways. It is therefore necessary to prevent/immediately clean up any spills to prevent their entry into waterways. • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • Road sweepers and wheel washes to prevent any product leaving the site. • IPL promotes the Fertcare principles and code of practice for responsible fertiliser use, a joint initiative between Fertilizer Australia Inc. and the Australian Fertiliser Services Association, to our

				customers.
Single super phosphate (SSP) fertilisers (granulated)	Direct operations Distribution network Product use	Ecotoxicity: 48-hour LC50 (bluegill): 10 mg/L Persistence/Degradability: Not expected to persist in the environment. Phosphates are not toxic to people or animals unless they are present in very high levels. Although of low toxicity to aquatic life, single superphosphate fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways due to provision of phosphates, which are a form of plant nutrition. Classification (Australia): NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. No signal word, pictograms, hazard or precautionary statements have been allocated.		Human Health and Safety: • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria, and labelling compliant with the National Code of Practice for Fertilizer Description and Labelling. Environmental Health: Although of low toxicity to aquatic life, single superphosphate fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways due to provision of phosphates, which are a form of plant nutrition. It is therefore necessary to prevent/immediately clean up any spills to prevent their entry into waterways. • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • Road sweepers and wheel washes to prevent any

				product leaving the site. • IPL promotes the Fertcare principles and code of practice for responsible fertiliser use, a joint initiative between Fertilizer Australia Inc. and the Australian Fertiliser Services Association, to our customers.
Big N (liquid ammonia fertiliser)	Direct operations Distribution network Product use	Human Health: Material is irritant to the mucous membranes of the respiratory tract (airways). Exposure to concentrations above the Exposure Standard of 25 ppm may cause irritation to the eyes, nose and throat. Higher concentrations may cause breathing difficulty, chest pain, bronchospasm, pink frothy sputum and pulmonary oedema. This may further predispose the patient to the development of acute bronchitis and pneumonia. Overexposure may result in death. Ecotoxicity: Anhydrous ammonia is very toxic to aquatic organisms. In low concentrations in water and soil, ammonia acts as a fertiliser to promote plant growth. Free ammonia concentrations of 2·5 mg per litre at pH 7·4 to 8·5 are considered harmful to marine life. In water ammonia (NH3) is considered to be the primary toxic form while the more	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Human Health and Safety: One volume of liquid anhydrous ammonia released from a container at 15 ºC will dissipate into approximately 850 volumes of gaseous ammonia. However, liquid anhydrous ammonia may take considerable time to evaporate due to its latent heat of evaporation. The hazardous nature of anhydrous ammonia requires emergency and spill procedures to be effective to avoid both human and environmental exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and

		prevalent ammonium hydroxide (NH4OH) form is much less harmful. Increases in pH above 7·5 will lead to an increased level of non-ionised ammonia (NH3). Ammonia is readily oxidized to nitrite which is also toxic to marine life. In water, ammonia volatilizes to the atmosphere, is transformed to other nitrogenous compounds, or may be bound to materials in the water. Environmental fate (exposure): 48 hr LC50 (daphnia magna): 24 mg/L; 48 hr LC50, S (daphnia magna) :189 mg/L; 24 hr LC50 (rainbow trout): fertilised egg:> 3·58 mg/L; alevins (0-50 days old): 3·58 mg/L; fry (85 days old): 0·068 mg/L; adults: 0·097 mg/L. Classification: Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL. Classification of the chemical: Flammable Gases - Category 2 Gases under pressure - Liquefied Gas Acute Inhalation Toxicity -		mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria. • Regarding community safety, where there is any risk of the release of fumes associated with ammonia, purpose built gas detectors are used. These are permanently located near the perimeters of sites that have ammonia storage tanks, ensuring that any potential leaks can be responded to. The detectors set off an alarm to response teams at any time of the day or night if gas is detected.

		Category 3 Skin Corrosion - Sub-category 1B Eye Damage - Category 1 Specific target organ toxicity (single exposure) - Category 3 Acute Aquatic Toxicity - Category 1		
Nitric acid (aqueous HNO3 solution)	Direct operations	Human Health: Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Eye contact: A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury. Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. Inhalation: Breathing in mists or aerosols may produce respiratory irritation. Ecosystem health: Nitric acid (HNO3) is highly soluble in water to form an aqueous HNO3 solution, a strong acid. Nitric acid is slightly toxic to aquatic organisms based on ecotoxicity testing. Nitric acid may decrease the pH of aquatic systems to less than pH 5 which may be toxic to aquatic species. The bioconcentration potential of nitric acid is low and its potential for mobility in soil is very high. Nitric acid will not	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	Nitric acid is manufactured and used to make ammonium nitrate under strictly controlled conditions in the on-site manufacture of ammonium nitrate. Spills must be prevented due to the corrosive nature of the substance. Spills to waterways have the potential to lower the pH of the water, affecting aquatic life. The hazardous nature of nitric acid requires emergency and spill procedures to be effective to avoid both human and environmental exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes

		biodegrade readily in the environment, but will ionize in water and be readily neutralized by the natural buffering capacity (alkalinity) present in the soil and surface water. The nitrate ion will ultimately become an inorganic nutrient for plant species. Classification: Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL. Classification of the chemical: Corrosive to Metals - Category 1 Skin Corrosion - Sub-category 1A Eye Damage - Category 1		risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • Wet scrubbers are used to control fume from storage tanks
Sulphuric acid (aqueous H2SO4 solution)	Direct operations Supply chain	Human Health: Skin: Causes severe burns. Contact may result in irritation, redness, pain, rash, dermatitis and severe burns. Eye: Causes severe burns. Contact may result in irritation, lacrimation, pain, redness and corneal burns with possible permanent eye damage. Sensitisation: Not classified as causing skin or respiratory sensitisation. Over exposure may result in mucous membrane irritation	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	Sulphuric acid is used under strictly controlled conditions in the on-site manufacture of ammonium phosphate fertilisers. Spills must be prevented due to the corrosive nature of the substance. Spills to waterways have the potential to lower the pH of the water, affecting aquatic life. The hazardous nature of sulphuric acid requires emergency and spill procedures to be effective

		of the respiratory tract, coughing, bronchitis, ulceration, bloody nose, lung tissue damage and deterioration of pulmonary function. Carcinogenicity: Occupational exposure to strong inorganic acid mists containing sulphuric acid is classified as carcinogenic to humans (IARC Group 1). STOT – single exposure Aspiration: Not expected to present an aspiration hazard. Ecosystem health: Sulphuric acid is miscible with water and its dilution will increase the velocity of downward movement in the soil where it may dissolve the soil material. Sulphuric acid is harmful to aquatic life in very low concentrations. It has moderate acute (short-term) toxicity on aquatic life and has moderate chronic (long-term) toxicity to aquatic life. Small quantities of sulfuric acid will be neutralised by the natural alkalinity in aquatic systems, however, larger quantities may lower the pH for extended periods of time. Classification (Australia: CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA GHS classification(s): Skin Corrosion/Irritation: Category 1A		to avoid both human and environmental exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • Wet scrubbers are used to control fume from storage tanks

Urea	Direct operations Distribution network Product use	Human Health: Skin: Contact may result in irritation, redness, pain and rash. Eye: Contact may result in irritation, lacrimation, pain and redness. STOT – single exposure: Over exposure may result in irritation of the nose and throat, with coughing. Ecosystem health: (Pigeon)- Subcutaneous-LDLO=16,000 mg/kg. Since Urea is a fertilizer, it may promote eutrophication in waterways. Non-toxic to aquatic organisms as defined by USEPA. Classification (Australia): NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS. No signal word, pictograms, hazard or precautionary statements have been allocated.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Human Health and Safety: • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria, and labelling compliant with the National Code of Practice for Fertilizer Description and Labelling. Environmental Health: Although of low toxicity to aquatic life, single superphosphate fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways due to provision of phosphates, which are a form of plant nutrition. It is therefore necessary to prevent/immediately clean up any spills to prevent their entry into waterways. • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • Road sweepers and wheel washes to prevent any product leaving the site. • IPL promotes the Fertcare principles and code of

				practice for responsible fertiliser use, a joint initiative between Fertilizer Australia Inc. and the Australian Fertiliser Services Association, to our customers.
Sodium hypochlorite (Cooling water treatment)	Direct operations	Human Health: Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Eye contact: A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury. Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. Inhalation: Breathing in mists or aerosols may produce respiratory irritation. Delayed (up to 48 hours) fluid build up in the lungs may occur. Ecosystem health: Acute aquatic toxicity (Category 1). Very toxic to aquatic life. LC50 (fish) - 0.07-5.9 mg/l – 48h. Classification (Australia); CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. HAZARDOUS CHEMICAL.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	Used as an onsite cooling water treatment, sodium hypochlorite is very toxic to aquatic life. The corrosive nature of sodium hypochlorite requires handling procedures to be effective to avoid human exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites.

		Classification of the chemical: Skin Corrosion - Sub-category 1B Eye Damage - Category 1 Acute Aquatic Toxicity - Category 1 GHS Classification: Corrosive to metals (Category 1). Skin corrosion (Sub-category 1C). Eye damage (Category 1).		
Sodium hydroxide (Cooling water treatment)	Direct operations	Human health: Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Eye contact: A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury. Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. Inhalation: Breathing in mists or aerosols may produce respiratory irritation. Ecosystem health: Toxic for aquatic organisms. Harmful effect due to pH shift. Classification (Australia): CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	Used as an onsite cooling water treatment, sodium hypochlorite is very toxic to aquatic life. The corrosive nature of sodium hypochlorite requires handling procedures to be effective to avoid human exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites.

		Transport by Road and Rail; DANGEROUS GOODS. HAZARDOUS CHEMICAL. Corrosive to Metals - Category 1 Skin Corrosion - Sub-category 1A Eye Damage - Category 1 GHS classification: Corrosive to Metals: Category 1 Skin Corrosion/Irritation: Category 1A		
Diesel	Direct operations Supply chain Distribution network Product use	Human health: Ingestion: Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkeness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia (inflammation of the lung). Eye contact: May be an eye irritant. Overexposure to diesel exhaust fumes may result in eye irritation. Skin contact: Contact with skin will result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis. Repeated exposure may cause skin dryness or cracking. Inhalation: Breathing in vapour may produce respiratory irritation. Breathing in vapour can result in headaches,	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Used as an onsite fuel and as a component of explosives emulsions, diesel is toxic to aquatic life. The potential impacts of diesel on human health also require handling procedures to be effective to avoid human exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • Supply of specialist

		dizziness, drowsiness, and possible nausea. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged, unconsciousness. Harmful if inhaled. Inhalation of diesel fuel has been reported to result in acute and persistent lung damage in humans. Overexposure to diesel exhaust fumes may result in headaches, nausea and respiratory irritation. Ecosystem health: Toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life. Material floats on water. Films formed on water may affect oxygen transfer between the water and the atmosphere and cause adverse effects on aquatic organisms. Prevent entry of the material into waterways, sewers, basements or confined areas. Classification (Australia): CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. Environmentally Hazardous Substances meeting the		knowledge in product use via our technical support teams and our Dyno Consult business. At many customer sites, IPL employees handle the product as specialist contractors during use.

		descriptions of UN 3077 or UN 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs. HAZARDOUS CHEMICAL. Flammable liquids - Category 4 Aspiration hazard - Category 1 Skin Irritation - Category 2 Acute Inhalation Toxicity - Category 4 Carcinogenicity - Category 2 Specific target organ toxicity (repeated exposure) - Category 2 Acute Aquatic Toxicity - Category 2 Chronic Aquatic Toxicity - Category 2		

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
International methodologies
Databases

Tools and methods used

WRI Aqueduct
COSO Enterprise Risk Management Framework
ISO 31000 Risk Management Standard
IPCC Climate Change Projections
Regional government databases
Other, please specify

Climate Explorer's Tool, which utilises National Oceanographic and Atmospheric Association (NOAA) data to project climate in the mid- and long-term; and the Climate Futures Tool (developed by the CSIRO and the Australian Bureau of Meteorology)

Comment

• Each business unit has responsibility for identification and management of risks specific to the business. This is managed through an annual risk workshop, register and audits.

• During 2018, IPL's comprehensive risk management process was strengthened by a detailed risk and opportunity analysis using two future climate-related scenarios (a 2 Degree scenario and a 4 Degree scenario) specifically created for IPL by a specialist third-party. The scenarios were created for each of IPL's 13 global manufacturing sites to 2030 and 2050, and described future weather parameters for each site including 'Max 24 hour rainfall - 1 in 20 year event (mm)', 'Water stress in year (%)', 'Percentage of time spent in drought', 'Duration of time spent in extreme drought (months per 20 years)' and 'Annual days >2in rainfall'. The WRI Aqueduct Tool is also completed annually and used to identify sites located in catchments experiencing high baseline water stress and where this is expected to increase. Identified risks relating to water and direct operations include water availability and pricing. For example, our Gibson Island site in Brisbane, Queensland was identified as being at risk in relation to current and future baseline water stress due to climate change. This site uses high volumes of cooling water. In 2021 this site will be connected to a recycled water source.

Supply chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
International methodologies
Databases

Tools and methods used

WRI Aqueduct
COSO Enterprise Risk Management Framework
ISO 31000 Risk Management Standard
IPCC Climate Change Projections
Regional government databases
Other, please specify

Climate Explorer's Tool, which utilises National Oceanographic and Atmospheric Association (NOAA) data to project climate in the mid- and long-term; and the Climate Futures Tool (developed by the CSIRO and the Australian Bureau of Meteorology)

Comment

• IPL's annual risk review process includes considers both suppliers of water to IPL (quantity and pricing risk) and supply chains logistics which may be impacted by extreme rainfall events (flooding).
• Each business unit has responsibility for identification and management of risks specific to the business. This is managed through an annual risk workshop, register and audits.
• During 2018, IPL's comprehensive risk management process was strengthened by a detailed risk and opportunity analysis using two future climate-related scenarios (a 2 Degree scenario and a 4 Degree scenario) specifically created for IPL by a specialist third-party. (These scenarios are being updated in 2021, with the addition of 1.5 degree and Inevitable Policy Response Scenarios). These scenarios are used in annual risk reviews to identify increasing risk of impacts on supply chain interruptions due to flooding. This analysis identified two regions where third-party logistics are at risk of increased incidence of flooding, thereby impacting the transfer of product offsite to customers. In addition, there is a risk that if this is interrupted and storage facilities become full, production may need to cease, impacting EBIT. For example, our Phosphate Hill site is services by a single rail line in a region expected to hotter and wetter, with an increase in flood interruption to the rail line.

Other stages of the value chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
International methodologies
Databases

Tools and methods used

WRI Aqueduct
COSO Enterprise Risk Management Framework
ISO 31000 Risk Management Standard
IPCC Climate Change Projections
Regional government databases
Other, please specify

Climate Explorer's Tool, which utilises National Oceanographic and Atmospheric Association (NOAA) data to project climate in the mid- and long-term; and the Climate Futures Tool (developed by the CSIRO and the Australian Bureau of Meteorology)

Comment

• IPL's annual risk review process includes considers both suppliers of water to IPL (quantity and pricing risk) and supply chains logistics which may be impacted by extreme rainfall events (flooding).
• Each business unit has responsibility for identification and management of risks specific to the business. This is managed through an annual risk workshop, register and audits.
• During 2018, IPL's comprehensive risk management process was strengthened by a detailed risk and opportunity analysis using two future climate-related scenarios (a 2 Degree scenario and a 4 Degree scenario) specifically created for IPL by a specialist third-party. (These scenarios are being updated in 2021, with the addition of 1.5 degree and Inevitable Policy Response Scenarios). Risk assessments include water related impacts (acute rainfall events and chronic changes to rainfall patterns) on IPL's current agricultural and mining customers as well as water-related impacts on regional and global markets relating to agriculture and mining. The Climate Risk Index was utilised in addition to those tools listed above. For example, IPL sells fertilisers into the Australian agricultural market. The scenario analysis identified a risk of increased periods of drought impacting growers in the south of Australia, which will impact on fertiliser sales volumes and mix, impacting revenues.

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Large volumes of high quality fresh water are a key requirement for the manufacture of ammonia, the base molecule for ammonium nitrate explosives and ammonium phosphate fertilisers. Water availability at a basin/catchment level is therefore particularly relevant for these IPL sites. For this reason, IPL uses the WRI Aqueduct Water Tool annually to assess baseline water stress and projected water stress to 2030 and 2040 for each of the catchments from which our manufacturing sites draw water. We also use 2 and 4 degree scenarios to 2030 and 2040 to assess the risk of potential future water shortages, as described below. The WRI Aqueduct Tool is used annually to estimate Physical Risk (Quantity), Baseline Water Stress, Inter-annual Variability, Seasonal Variability, Flood Occurrence Risk, Drought Severity Risk, Groundwater Risk, Upstream Storage Risk and 'Water Stress- projected change from baseline to 2020 (business as usual)' for each manufacturing site, and is reviewed by the Chief Risk Officer. For example, our Gibson Island ammonia manufacturing site in Brisbane, Queensland, is identified by the WRI Aqueduct tool as being located in a catchment currently experiencing high baseline water stress and this is expected to double by 2030. This site is being connected to a recycled water source in 2021. The assessment is covered for operations, upstream water suppliers to these sites and downstream customers which may be impacted by water shortages. These primarily include farming customers who buy our fertiliser products and who are directly impacted by droughts. This then impacts product volumes and mix sold to these customers, reducing revenues for IPL. In 2018, 2 and 4 degree climate related scenarios were created specifically for IPL by an expert third party, and included projected rainfall conditions for each of IPL's 13 major manufacturing sites to 2030 and 2050. These include parameters such as 'Max 24 hour rainfall - 1 in 20 year

		event (mm)', 'Water stress in year (%)', 'Percentage of time spent in drought', 'Duration of time spent in extreme drought (months per 20 years)' and 'Annual days >2in rainfall'. These scenarios are being refreshed in 2021, and 1.5 degree and 'Inevitable Policy Response (IPR) scenarios will be added. These will be used in IPL's annual risk review at both a corporate and site-based level.
Water quality at a basin/catchment level	Relevant, always included	Water quality is a key issue at IPL ammonia manufacturing facilities which use cooling water. High quality water must be used to avoid minerals affecting cooling tower equipment. This is less relevant to IPL than water availability risk for two reasons: firstly because IPL operates all of its manufacturing plants in the US and Australia, where water quality is typically high, and secondly because IPL can choose to treat water to achieve the high quality required. Water quality generally only becomes an issue for IPL manufacturing sites where dam levels become so low that water sediment levels are increased. Decisions to install water treatment / recycling / reduction are normally driven by a cost/benefit assessment, regulatory demands and/or securing quality supply. The assessment is covered only for operations and upstream water suppliers to operations because downstream customers at risk relating to water primarily include farming customers who do not require fresh water of a very high quality for crop irrigation. The WRI Aqueduct Tool is used to assess 'Physical Risk - Quality ' for 'Return Flow', and 'Ratio Upstream Protected Land' for 23 of IPL's manufacturing sites to 2030 and 2040 with both current and emerging risks assessed.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, sometimes included	IPL considers this aspect for manufacturing sites where water resource management involves multiple stakeholders and/or the annual WRI Aqueduct Tool analysis identifies high water use sites located in catchments with high current, or emerging, baseline water stress. Using this analysis, two sites have been identified as being at risk of potential stakeholder conflicts concerning water resources at a basin/catchment level. At these two sites, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in

		water availability and quality issues in Cheyenne, USA, where businesses and the local community depend upon a single groundwater resource which has been identified as currently experiencing medium-to-high (20-40%) baseline water stress and a high (4-8cm/y) groundwater table decline, with a moderate increase in both to 2030. At Gibson Island in Brisbane, Queensland, the catchment has been identified as experiencing high baseline water stress (40-80%) due to high variability interannual rainfall and a relatively large population. This is expected to double by 2030. We are currently working with Seqwater, the Queensland Government Bulk Water Supply Authority, and Urban Utilities, who operate a water recycling plant located near our site, to purchase recycled water for use at Gibson Island. During 2021, we aim to conclude an agreement and begin laying the pipeline to bring around 6,000 kL per day of recycled water into the site. This will leave 6 million litres of potable water in south-east Queensland dams every day for our local communities.
Implications of water on your key commodities/raw materials	Not relevant, explanation provided	This is not considered relevant because IPL's key commodities are natural gas (for both an energy source and a feedstock for hydrogen) to make ammonia and ammonium nitrate, and phosphate rock and trace elements for addition to our fertiliser products. These sites operate in countries with well developed municipal water supplies: the USA and Australia. Both of these countries have water management plans for water utilities and supplies. In Australia, this may include desalination plants on the coast in the future. While we monitor developments in water supplies and management at all of our sites, it is not currently envisaged that water issues will impact on our key commodities/raw materials. This position is subject to review.
Water-related regulatory frameworks	Relevant, always included	Our manufacturing sites operate in Australia and the USA where public and private water utilities are managed comprehensively. This aspect is included in our risk assessment because existing and potential regulatory frameworks for water withdrawals and discharges are relevant for some of our sites which use groundwater or river water, and which discharge water. For example, our ammonia manufacturing sites in the USA use large volumes of surface (river) water for cooling purposes at St Helens OR, Cheyenne WY, Waggaman LA and Louisiana MO and discharge the water as clean water back to these rivers under permit. Due to state-based regulations, the

		monitoring of changes to regulatory frameworks is assigned to site managers, who delegate to site environmental staff. Emerging risks are reported to management and reviewed during annual risk reviews at the business unit level. Risks associated water-related regulatory frameworks are covered only for our operations. Emerging as well as current regulations are included in the assessment. For example, IPL's 2 and 4 degree scenario assessments have identified areas in Australia which may experience reduced rainfall in the future, leading to water restrictions or other changes in water regulations. Our Gibson Island and Mt Isa manufacturing sites engage with regulators to monitor regulator developments which may arise in relation to water shortages and supply. Water costs are monitored as part of the group annual risk review process, where water availability and costs are reviewed annually at the Business Unit level.
Status of ecosystems and habitats	Relevant, not included	The WBCSD Tool (used annually by IPL from 2013 to 2017, until it became obsolete) identified no biodiversity hotspots relevant to IPL operations.
Access to fully-functioning, safely managed WASH services for all employees	Not relevant, explanation provided	All IPL facilities currently provide access to fully-functioning WASH services for all employees. IPL operates primarily in countries rated by the WRI Aqueduct Tool to have 'Unimproved (no drinking water)' and 'Unimproved (no sanitation) less than 2.5% (Australia, USA Canada and Europe). One site, in Dinamita, Mexico, is located in a region rated by the Tool as 'Medium - High (5-10%)' for unimproved (no sanitation)'. This site provides access to clean sanitation facilities and drinking water for employees as per other IPL sites.
Other contextual issues, please specify	Not relevant, explanation provided	There are no other relevant contextual issues currently considered. This is subject to annual review.

W3.3c

(W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Customers	Relevant, always included	Australian current and future fertiliser customers are included in IPL's water related risk assessments due to variable rainfall in Australia, which impacts growing conditions and therefore demand for our fertiliser products, which impacts revenues.
Employees	Not relevant, explanation provided	Water risks to employees are not considered relevant for IPL due to our operations being located primarily in countries rated by the WRI Aqueduct Tool to have less than 2.5% 'Unimproved (no drinking water)' and 'Unimproved (no sanitation). These countries are Australia, USA Canada and Europe. For this reason, water risks for our employees are low and are not presently included in our water risk assessments.
Investors	Relevant, sometimes included	The views of IPL's investors on some water related issues, such as those associated with climate change in Australia, are relevant to IPL and are included. This is relevant primarily for our Australian explosives and fertiliser manufacturing and distribution businesses due to water availability being an issue in Australia at some locations. Australia is the driest continent and is regularly impacted by drought. For this reason, IPL's management of water is considered to be an issue of concern for communities and investors in Australia. This is considered only for IPL operations, and is considered in the context of current and emerging risks, such as water shortages which may become more common due to climate change.
Local communities	Relevant, always included	IPL considers this aspect for manufacturing sites where water resource management involves multiple stakeholders and/or the annual WRI Aqueduct Tool analysis identifies high water use sites located in catchments with high current, or emerging, baseline water stress. Using this analysis, two sites have been identified as being at risk of potential stakeholder conflicts concerning water resources at a basin/catchment level. At these two sites, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where businesses and the local community depend upon a single groundwater resource which has been identified as currently experiencing medium-to-high (20-40%) baseline water stress

		and a high (4-8cm/y) groundwater table decline, with a moderate increase in both to 2030. At Gibson Island in Brisbane, Queensland, the catchment has been identified as experiencing high baseline water stress (40-80%) due to high variability interannual rainfall and a relatively large population. This is expected to double by 2030. We are currently working with Seqwater, the Queensland Government Bulk Water Supply Authority, and Urban Utilities, who operate a water recycling plant located near our site, to purchase recycled water for use at Gibson Island. During 2021, we aim to conclude an agreement and begin laying the pipeline to bring around 6,000 kL per day of recycled water into the site. This will leave 6 million litres of potable water in south-east Queensland dams every day for our local communities.
NGOs	Not relevant, explanation provided	Water risks associated with NGOs are not considered relevant for IPL due to our operations being located primarily in countries rated by the WRI Aqueduct Tool to have less than 2.5% 'Unimproved (no drinking water)' and 'Unimproved (no sanitation). These countries are Australia, USA, Canada and Europe. For this reason, risks associated with NGOs are low and are not currently included in our water risk assessments. This position is subject to review.
Other water users at a basin/catchment level	Relevant, sometimes included	IPL considers this aspect for manufacturing sites where water resource management involves multiple stakeholders and/or the annual WRI Aqueduct Tool analysis identifies high water use sites located in catchments with high current, or emerging, baseline water stress. Using this analysis, two sites have been identified as being at risk of potential stakeholder conflicts concerning water resources at a basin/catchment level. At these two sites, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where businesses and the local community depend upon a single groundwater resource which has been identified as currently experiencing medium-to-high (20-40%) baseline water stress and a high (4-8cm/y) groundwater table decline, with a moderate increase in both to 2030. At Gibson Island in Brisbane, Queensland, the catchment has been identified as experiencing high baseline water stress (40-80%) due to high variability interannual rainfall and a relatively large population. This is expected to double by 2030. We are currently working with Seqwater, the Queensland Government Bulk Water

		Supply Authority, and Urban Utilities, who operate a water recycling plant located near our site, to purchase recycled water for use at Gibson Island. During 2021, we aim to conclude an agreement and begin laying the pipeline to bring around 6,000 kL per day of recycled water into the site. This will leave 6 million litres of potable water in south-east Queensland dams every day for our local communities.
Regulators	Relevant, always included	Our manufacturing sites operate in Australia and the USA where public and private water utilities are managed comprehensively. Regulators are included in our risk assessment because existing and potential regulatory frameworks for water withdrawals and discharges are relevant for some of our sites which use groundwater or river water, and which discharge water. For example, our ammonia manufacturing sites in the USA use large volumes of surface (river) water for cooling purposes at St Helens OR, Cheyenne WY, Waggaman LA and Louisiana MO and discharge the water as clean water back to these rivers under permit. Due to state-based regulations, the monitoring of changes to regulatory frameworks is assigned to site managers, who delegate to site environmental staff. Emerging risks are reported to management and reviewed during annual risk reviews at the business unit level. Regulators are included only for our operations. Emerging as well as current regulations are included in the assessment. For example, IPL's 2 and 4 degree scenario assessments have identified areas in Australia which may experience reduced rainfall in the future, leading to water restrictions or other changes in water regulations. Our Gibson Island and Mt Isa manufacturing sites engage with regulators to monitor regulator developments which may arise in relation to water shortages and supply. Water costs are monitored as part of the group annual risk review process, where water availability and costs are reviewed annually at the Business Unit level.
River basin management authorities	Relevant, sometimes included	At sites where water resource management involves multiple stakeholders, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where the local community depends upon a groundwater resource.

Statutory special interest groups at a local level	Relevant, sometimes included	At sites where water resource management involves multiple stakeholders, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where the local community depends upon a single groundwater resource. Current and emerging water interest groups are included as they relate to our operations and our downstream agricultural customers in Australia, where water is a material issue for them.
Suppliers	Relevant, sometimes included	Suppliers are included only where the suppliers to IPL are current suppliers of water to our operations.
Water utilities at a local level	Relevant, always included	Current water utilities stakeholders at a local level are included in annual risk reviews at a business unit level where issue have been identified at a site-based level. This stakeholder is included only for our operations.
Other stakeholders, please specify	Not relevant, explanation provided	There are no other stakeholders currently identified. This position is subject to review.

W3.3d

(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

IPL has a formalised process in place to identify risks in the supply chain, including water supply. As per the Company's Group Risk Policy, the oversight and management of material business risk is managed within a comprehensive risk management process, overseen by the Board Audit and Risk Management Committee. IPL has also developed a detailed contingency planning process within its businesses. The process systematically identifies short term product supply exposure in relation to IPL's operations, including water, and determines the next best alternative supply point or the risk mitigation measures that might need to be taken to mitigate shortages in supply.

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. Stakeholder concerns are included at this level. 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.

As part of this process, the WRI Water Aqueduct Tool is completed annually and is reviewed by the Chief Risk Officer. It includes 23 of IPL's manufacturing sites, including those which are users of large volumes of high quality cooling water. In 2018, IPL engaged a specialist third party to create IPL specific 2 and 4 degree future climate-related scenarios to assess the medium and long term risks and opportunities associated with climate change. These scenarios will be updated in 2021 and two new scenarios will be developed: a 1.5 and an Inevitable Policy Response Scenario. The scenarios are compiled by an expert third party specifically for IPL using RCPs and SSPs, and each describe how physical climate change would impact on areas including changing rainfall patterns (which will impact on water availability for IPL's manufacturing facilities) and on IPL's farming and mining customers. As per IPL’s risk management process, identified 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.

Identified water related risks include increasing water scarcity at some IPL manufacturing locations, increased risk of storm water pond overflows at some sites, 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.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, both in direct operations and the rest of our value chain

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

IPL defines a 'material' financial impact as a AUD$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.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	2	1-25	Throughout this response, 'facility' means a particular IPL site with fixed buildings and manufacturing plants at a specific address. Two facilities in Australia are exposed to water related risks with the potential to have a substantive financial or strategic impact on our business. These are explained in more detail below in W4.1c.

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

Country/Area & River basin

Australia

Eyre Lake

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-10

Comment

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. 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.

The facility is not expected to be at risk of water shortages or quality issues due to supply via extraction from an aquifer which is recharged annually in the wet season.

Country/Area & River basin

Australia

Other, please specify

North-east Australia

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-10

Comment

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.

The Gibson Island manufacturing facility is identified by the WRI Aqueduct Tool 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. Any interruption to production longer than three weeks due to water shortages would have a material impact on EBIT.

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Australia

Other, please specify

North-east Australia Basin

Type of risk & Primary risk driver

Physical

Flooding

Primary potential impact

Supply chain disruption

Company-specific description

IPL's Phosphate Hill ammonium phosphate fertiliser manufacturing facility is located in remote northern Australia (near a natural phosphate deposit) where IPL's 4 degree scenario describes 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.

Timeframe

1-3 years

Magnitude of potential impact

Medium

Likelihood

More likely than not

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

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
+ $2m 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.

Primary response to risk

Develop flood emergency plans

Description of response

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 to enable production to continue in the even that rail transport out of the facility as interrupted for an extended period in the future. Process changes were also made, including the hire of a dry truck unloading chute/conveyor and telehandler for the wet season. 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’.

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

Cost of response

3,820,000

Explanation of cost of response

The cost of response figure reported above has been calculated 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 to hire a dry truck unloading chute/conveyor and telehandler for the 2021 wet season in case it is required.

Country/Area & River basin

Australia
Other, please specify
North-east Australia

Type of risk & Primary risk driver

Physical
Drought

Primary potential impact

Disruption to sales

Company-specific description

IPL's Gibson Island ammonia manufacturing facility 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. An interruption to manufacturing due to water shortages of longer than three weeks would have a material impact through disruption to sales.

Timeframe

4-6 years

Magnitude of potential impact

Low

Likelihood

More likely than not

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

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.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

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.

Cost of response

4,000,000

Explanation of cost of response

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.

W4.2a

(W4.2a) Provide details of risks identified within your value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Australia

Other, please specify

All basins in the eastern and southern states of Australia

Stage of value chain

Use phase

Type of risk & Primary risk driver

Physical

Other, please specify

Drought, flooding and extreme weather events

Primary potential impact

Reduced demand for products and services

Company-specific description

Impacts on Product Demand:
IPL provides products and services to end markets, individual customers and suppliers that may be impacted by changes to weather patterns, including rainfall, resulting from climate change. Acute impacts such as changes to the number and/or intensity of storms, hurricanes and other extreme weather events, as well as chronic changes, such as increased, longer or more severe droughts, may impact IPL's end markets, primarily mining and agriculture.

Timeframe

1-3 years

Magnitude of potential impact

Medium-high

Likelihood

More likely than not

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

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: IPL announced an AU$19.8 million impact due to drought in the 2018 IPL Financial Year. In 2019, IPL announced a further AUD$33.6m decrease in earnings (against 2018 FY earnings) due to prevailing drought conditions in Northern Victoria, New South Wales and Southern Queensland, which adversely impacted fertilisers sales volumes and mix.

Primary response to risk

Direct operations
Develop new products and/or markets

Description of response

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.

CASE STUDY - 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.

Additional mitigation measure include the following:
• 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.

Cost of response

3,000,000

Explanation of cost of response

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.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Products and services

Primary water-related opportunity

Sales of new products/services

Company-specific description & strategy to realize opportunity

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.

CASE STUDY - 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.
During the reporting period, IPL was also involved in the following research projects:
• Continued work on a joint research project with the University of Melbourne into new fertiliser technologies for sustained food security.
• Completion of our Australia-China Joint Research Centre of Healthy Soils for Sustainable Food Production & Environmental Quality research.
• A new partnership with the University of Adelaide & CSIRO to develop novel urea coatings for use in arid cropping zones where a particular nutrient deficiency is common.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Low-medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

20,400,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

The estimated impact figure has been calculated using the average revenues per annum from other novel/new fertiliser products released within the last 5-10 years, which were 2018: AU$21.4m, 2019: AU$20.7m and 2020: AU$19.0m.
(21.4m + 20.7m + 19.0m)/3 = AU$20.4m

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Phosphate Hill

Country/Area & River basin

Australia

Other, please specify

North-east Australia

Latitude

-21.8814

Longitude

139.9756

Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

4,539.05

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

4,539.057

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

0

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

4,539.05

Comparison of total consumption with previous reporting year

About the same

Please explain

• The Phosphate Hill site used 2 percent less water than the previous reporting period.
• The tool used to assess the facility catchment for baseline water stress is the WRI Aqueduct Water Tool, which is completed annually.
• The change of -2% in withdrawal since the last reporting period has been classified as 'About the same'.
• Volumes are directly measured by meters
• Groundwater is the only water source for the remotely located facility. This is why all other sources are reported as 'zero'
• The site is a non-discharge site - cooling water is recycled in cooling towers until it is evaporated. Evaporation ponds are used for other water.
• No discharge is ground water injected or soaked away.
• Due to the remote location of the facility, sewage is treated at an on-site sewage

treatment plant with an evaporation pond. The facility is not connected to municipal waste water treatment facilities.

Facility reference number

Facility 2

Facility name (optional)

Gibson Island

Country/Area & River basin

Australia

Other, please specify

North-east Australia

Latitude

-27.442

Longitude

153.118

Located in area with water stress

Yes

Total water withdrawals at this facility (megaliters/year)

2,279.31

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

33.37

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

2,245.94

Total water discharges at this facility (megaliters/year)

216.78

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

216.78

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

2,062.53

Comparison of total consumption with previous reporting year

About the same

Please explain

• The Gibson Island facility used 3 percent less water than the previous reporting period.
• The change of -3% in withdrawal since the last reporting period has been classified as 'About the same'.
• The facility is identified by the WRI Aqueduct Tool 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, which is used annually, also predicts that baseline water stress in the catchment will double by 2030 due to climate change affecting rainfall and a growing population.
• Volumes of municipal water purchased from the state water utility are taken from invoices.
• The 33.37ML reported as 'surface water' is storm water captured onsite and treated in a Reverse Osmosis water treatment plant for on-site use.
• Discharge is measured by a meter for reporting under a licence to discharge. It excludes sewage sent offset for testament and disposal.
• No discharge is ground water injected or soaked away.

W5.1a

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?

Water withdrawals – total volumes

% verified

Not verified

Water withdrawals – volume by source

% verified

Not verified

Water withdrawals – quality

% verified

Not verified

Water discharges – total volumes

% verified

Not verified

Water discharges – volume by destination

% verified

Not verified

Water discharges – volume by treatment method

% verified

Not verified

Water discharge quality – quality by standard effluent parameters

% verified

Not verified

Water discharge quality – temperature

% verified

Not verified

Water consumption – total volume

% verified

Not verified

Water recycled/reused

% verified

Not verified

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

No

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Board-level committee	IPL's Board of Directors is responsible for charting the direction, policies, strategies and financial objectives of the Company. The Board serves the interests of IPL and its shareholders, as well as other stakeholders such as employees, customers and the community, in a manner designed to create and continue to build sustainable value. IPL's Board operates in accordance with its charter and has reserved certain powers for itself. The Board has established four standing Committees to assist the Board with effectively discharging its responsibilities: » Audit and Risk Management Committee; » Nominations Committee; » Remuneration Committee; and » Health, Safety, Environment and Community (HSEC) Committee. • The HSEC Committee has responsibility for water-related issues. • The Audit and Risk Management Committee has responsibility for water-related risks, including those arising from climate change.

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Sporadic - as important matters arise	Overseeing major capital expenditures Reviewing and guiding risk	• Responsibility for water policies, strategy and information is delegated to the CEO and her Executive Team. The President Global Manufacturing & HSE is the ET member with

		management policies Reviewing and guiding strategy Other, please specify Assessing risks identified using future climate-related scenarios	responsibility for the management of water use and discharge at manufacturing operations, including where these relate to environmental licensing. Operations staff manage water information and report annually through the environmental team to the Sustainability Manager, who completes water reporting in the Sustainability Report, which is approved by the Board before publishing. • The Board oversees major capital expenditures such as new facilities. Water resource considerations for these are factored into location planning for new operations which are managed by The President Global Manufacturing & HSE. The manufacture of ammonia requires access to large quantities of good quality fresh-water for cooling. IPL manages water risks by ensuring that new ammonia manufacturing facilities are located close to abundant sources of freshwater. For example, our most recently built ammonia plant was built in Waggaman, Louisiana in 2016, on a brownfield site on the West Bank of the Mississippi River in Louisiana. • Responsibility for overseeing water-related risks, including those relating to climate change. The Board reviews and guides risk management policies. IPL has a formalised process in place to identify risks in the supply chain, including water supply. As per the Company's Group Risk Policy, the oversight and management of material business risk is managed within a comprehensive risk management process, overseen by the Board Audit and Risk Management Committee of the Board. In 2018, IPL engaged a specialist third party to conduct a detailed risk and opportunity analysis using two future climate-related scenarios (a 2-Degree & a 4-Degree scenario) specifically created for IPL. Identified risks relating to water availability and pricing, rainfall changes which may impact IPL's farming and mining customers and water management at IPL sites (at the longer time frames associated with climate change) were included in the risks identified. The strategies to manage these risks are reviewed by the full Board.

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Other C-Suite Officer, please specify

The President Global Manufacturing & HSE is the ET member with responsibility for the management of water use and discharge at manufacturing operations, including where these relate to environmental licensing.

Responsibility

Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The President Global Manufacturing & HSE is a member of the Executive Team which reports directly to the CEO.
The President Global Manufacturing & HSE reports quarterly to the Health, Safety, Environment and Community (HSEC) Committee of the Board.

Name of the position(s) and/or committee(s)

Chief Risk Officer (CRO)

Responsibility

Assessing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The Chief Risk Officer reports to the CFO, who is a member of the Executive Team which reports directly to the CEO.
The Chief Risk Officer reports quarterly to the Audit and Risk Management Committee, which is a sub-committee of the IPL Board.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	No, and we do not plan to introduce them in the next two years	

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

No

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

No, but we plan to do so in the next two years

IPL_2020_Annual Report.pdf

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	5-10	• Water availability issues have been incorporated into our long term business planning. For example, a major manufacturing site at Gibson Island in Brisbane, which uses large volumes of high quality water for cooling purposes, was identified by our WRI Aqueduct Tool as being located in a catchment currently experiencing high (40-80%) water stress and this is projected to double by 2030. For this reason, the site is being connected to a recycled water source in 2021. This will ensure water supply to the site is not affected by water restrictions in the future, which would impact on production, and therefore revenues. • Flood mitigation planning has also been incorporated into our long term business planning. For example, our Phosphate Hill facility is located in a region described by IPL's 4 degree scenario as likely to experience an increased incidence & magnitude of flooding events due to climate change. 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 resulting in a total EBIT impact of AU$115m. Contingency plans have been developed and product storage capacity at the site has been increased to manage the impact of future events.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	• Water availability issues have been incorporated into our long term business strategy. For example, a major manufacturing site at Gibson Island in Brisbane, which uses large volumes of high quality water for cooling purposes, was identified by our WRI Aqueduct Tool as being located in a catchment currently experiencing high (40-80%) water stress and this is projected to double by 2030. For this reason, the site is being connected to a recycled water source in 2021. This will ensure water supply to the site is not affected by water restrictions in the future, which would impact on production, and therefore revenues. • Flood mitigation planning has also been incorporated into our long term business strategy. For example, our Phosphate Hill facility is located in a region described by IPL's 4 degree scenario as likely to experience an increased incidence & magnitude of flooding events due to climate change. 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 resulting in a total EBIT impact of AU$115m. Contingency plans have been developed and product storage capacity at the site has been increased to manage the impact of future events.
Financial planning	Yes, water-related issues are integrated		• Water availability issues have been incorporated into our financial planning. For example, AU$4m dollars CAPEX will be invested in a pipeline to connect the Gibson Island manufacturing facility to a recycled water source in 2021. This will ensure water supply to the site is not affected by water restrictions in the future, which would impact on production, and therefore revenues. This is due to the facility being identified by the WRI Aqueduct Tool as being located in a catchment currently experiencing high (40-80%) water stress, with this being projected to double by 2030. • Flood mitigation has also been incorporated into our financial planning. For example, our Phosphate Hill facility is located in a region described by IPL's 4 degree scenario as likely to experience an increased incidence & magnitude of flooding events due to climate change.

			Contingency plans have been developed and product storage capacity at the site has been increased to manage the impact of future events. AU$3.6m CAPEX was invested in the installation of increased product storage (to avoid plant shutdowns in the event that rail transport must be transferred to road, which is slower, during floods) and $220,000 OPEX is allocated to hire a dry truck unloading chute/conveyor and telehandler annually during the wet season.

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

10

Anticipated forward trend for CAPEX (+/- % change)

10

Water-related OPEX (+/- % change)

2

Anticipated forward trend for OPEX (+/- % change)

2

Please explain

Water related CAPEX increased due to AU$3.6m being invested in the installation of increased product storage (to avoid plant shutdowns in the event that rail transport must be transferred to road, which is slower) during floods and $220,000 OPEX has been allocated to hire a dry truck unloading chute/conveyor and telehandler annually during the wet season.

W7.3

(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	Yes	The WRI Aqueduct Tool is used annually to estimate Physical Risk (Quantity), Baseline Water Stress, Inter-annual Variability, Seasonal Variability, Flood Occurrence Risk, Drought Severity Risk, Groundwater Risk, Upstream Storage Risk and 'Water Stress- projected change from baseline to 2030 and 2040, for each manufacturing site, and is reviewed by the Chief Risk Officer. For example, our Gibson Island ammonia manufacturing site in Brisbane, Queensland, is identified by the WRI Aqueduct tool as being located in a catchment currently experiencing high baseline water stress which is expected to double by 2030. This site is being connected to a recycled water source in 2021. IPL's 2 & 4 degree climate related scenarios are based on RCP 2.6 & 4.5 and draw on IPCC AR5; the Monsoonal North Cluster Report, Climate Change in Australia; Coastal Master Plan: C2-4: Tropical Storm Intensity and Frequency, Baton Rouge, Louisiana; the Climate Futures Tool (CSIRO); and the Climate Explorer Tool (NOAA)

W7.3a

(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?

Yes

W7.3b

(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization's response?

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	IEA 450 RCP 2.6 IEA Sustainable Development Scenario Other, please specify	1. 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,	1. IMPACTS ON OPERATIONS RESPONSE: Identify and manage risks. • Our Gibson Island ammonia manufacturing facility in Brisbane, Queensland, is

	The Climate Futures Tool developed by the CSIRO and the Australian Bureau of Meteorology; The Climate Explorer Tool developed by the National Oceanographic and Atmospheric Association (NOAA)	tropical storms and flooding. 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. 2. Impacts on Product Demand: 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. Interruptions to logistics from extreme weather events could result in financial loss if product cannot be stored effectively and degrades.	identified by the WRI Aqueduct tool as being located in a catchment currently experiencing high baseline water stress and this is expected to double by 2030. The ammonia plant at the facility uses high volumes of cooling water, and future water restrictions may interrupt production as the plant must run continuously (24/7). AU$4m is being invested to connect the facility to a recycled water source in 2021. • At our Phosphate Hill ammonia manufacturing facility, AU$3.6m CAPEX has been invested in the installation of increased product storage to avoid plant shutdowns in the event that rail transport, which empties the storage by dispatching product to customers, is disrupted due to flooding. The increased product storage capacity will allow the plant to continue to produce even if product dispatch is slowed by a transfer from rail to road transport, which is slower. Contingency plans have been developed to enable this transfer of product from rail to road, with $220,000 OPEX allocated to hire a dry truck unloading chute/conveyor and telehandler annually during the wet season. 1. IMPACTS ON PRODUCT DEMAND: This risk is primarily being managed by geographic diversity in manufacturing locations, markets and sectors within markets. Shelf life of products is also being extended through R&D.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, and we do not anticipate doing so within the next two years

Please explain

IPL does not currently use a price on water because we operate all of our manufacturing sites in countries identified by the WRI Aqueduct Tool as having more than 97.5% of the population served with improved water and sanitation. These countries are Australia, Canada, and the USA. For this reason, access to water is managed as per supply chain management, and other environmental issues relating to water, including discharge, are managed under the relevant EPA legislation and licencing.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Business level specific targets and/or goals Country level targets and/or goals	Targets are monitored at the corporate level	Scenario analysis tools, including our 4 degree climate-related scenario (based on RCP 4.5) and our WRI Aqueduct Water Tool Analysis have influenced our water targets. Most of our manufacturing sites in the US have access to abundant river water for high volumes of cooling water. Conversely, all of the IPL facilities identified as being subject to High (40-80%) Baseline Water Stress by the WRI Water Tool are located in Australia, which is the driest continent on earth. Water stress is projected to increase with population growth and climate change at some of these sites, which will impact on local communities as well as IPL. For this reason, our current water target is an Australia wide target focused on reducing municipal water use, which is a resource we share with our communities.

W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number
Target 1

Category of target
Water withdrawals

Level
Country level

Primary motivation
Risk mitigation

Description of target
25% reduction in our Australian municipal water use by 2023

Quantitative metric
% reduction of water withdrawals from municipal supply

Baseline year
2020

Start year
2021

Target year
2023

% of target achieved
0

Please explain
The target has been set this year (2020) so progress is still zero.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?

No, we do not currently verify any other water information reported in our CDP disclosure

W10. Sign off

W-FI

(W-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.

W10.1

(W10.1) Provide details for the person that has signed off (approved) your CDP water response.

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

W10.2

(W10.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes

Submit your response

In which language are you submitting your response?

English