Welcome to your CDP Water Security Questionnaire 2020

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, 2018	September 30, 2019

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 (each emulsion manufacturing site in Australia currently uses less than 0.5% of IPLs total water withdrawal).
Offices and 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.
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 are located in areas where access to water is assured. Cooling water also requires very low sediment levels, so even fresh surface (river) water is typically treated onsite prior to use. IPL typically has access to regulated municipal water supply or abundant fresh surface water or groundwater as regulated by the local EPA. Where this is not the case, long-term supply agreements are put in place.
Sufficient amounts of recycled, brackish and/or produced water available for use	Neutral	Neutral	IPL manufacturing sites are typically located in areas with access to regulated municipal water supply or abundant fresh surface water or ground water as regulated by the local EPA. Where this is not the case, long-term supply agreements are put in place.

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	Total water withdrawal volumes are collected via municipal water invoices, river water meters, groundwater meters, on-site storm water treatment plant meters, on-site water recycling treatment plant meters and rainwater tank meters for all sites under operational control except for those listed at question W0.6a. (administrative buildings and some very small distribution sites). 99% of water is regularly measured and monitored.
Water withdrawals – volumes by source	76-99	Total water withdrawal volumes are collected via municipal water invoices, river water meters, groundwater meters, on-site storm water treatment plant meters, on-site water recycling treatment plant meters and rainwater tank meters for all sites under operational control except for those listed at question W0.6a. It is estimated that 99% of IPL's total water use is regularly measured and monitored.
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. With the exception of a single site, all Australian sites are 'non-discharge to the environment' sites.
Water discharges – volumes by destination	100%	Water discharge volumes are collected via discharge meters to rivers (surface waters) and groundwater at 100% of IPL sites which 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. With the exception of a single site, all Australian sites are 'non-discharge to the environment' sites.

Water discharge quality – by standard effluent parameters	100%	Water discharge volumes are collected from each site, along with the quality by standard effluent parameters as demanded by the licence requirements at each site, from 100% of sites which discharge.
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.

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	45,501	Lower	During 2019 IPL withdrew 45,501 ML (mega-litres) of water, a 10% decrease from last year. In addition to water saving initiatives, this decrease is mostly related to decreased production, and therefore cooling water, at our Phosphate Hill, Queensland and Waggaman, Louisiana ammonia plants.
Total discharges	30,448	About the same	During 2019 IPL discharged 30,448 ML of water, a decrease of 1% from last year. This 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. Most discharge (98.7%) was clean cooling water which was released to the natural waterways from which it was taken.
Total consumption	15,449	Lower	Total water use has decreased by 24%. While there has been decreased water use due to production, the net consumption figure year-on-year is influenced by the change in rainfall/snowmelt where runoff is collected and treated at several sites in North America, and therefore cannot be separately metered to other 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 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, the tool identifies no IPL site as 'Extremely high >80%' but does identify four sites as 'High 40-80%.' 100% of the water use at these 4 sites has been included in this calculation. Two of these 4 sites do not manufacture ammonia, and therefore do not require large volumes of water. (The percentage for the current reporting period was 8.7% and the percentage for the previous reporting period was 8.3%).

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	34,227.56	Lower	There has been an 11% decrease in fresh surface water withdrawal. This is mostly due to decreased production. Fresh surface water made up 75.2% of our total water withdrawal.
Brackish surface water/Seawater	Relevant	2.14	About the same	Desalinated water is used at Donoro, Mexico.
Groundwater – renewable	Relevant	7,114.17	About the same	Groundwater use was reduced in both the current reporting year (due to the impact of flooding) and the previous reporting year (due to a planned

				maintenance shutdown) at the Phosphate Hill site in Australia, which uses groundwater for all water supplies.
Groundwater – non-renewable	Not relevant			
Produced/Entrained water	Not relevant			
Third party sources	Relevant	4,156.86	Lower	Municipal water use was 12 percent lower than last year. This was mostly due to reduced production at the Waggaman, Louisiana ammonia plant.

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	30,064.06	About the same	Clean discharge to surface waters made up 98.7% of our total discharge and was about the same as last year. 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.
Brackish surface water/seawater	Not relevant			
Groundwater	Relevant	383.32	About the same	
Third-party destinations	Relevant	0.2	Lower	

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

Water intensity value (m3)

13

Numerator: water aspect

Total water withdrawals

Denominator

Other, please specify

tonnes manufactured for sale

Comparison with previous reporting year

Higher

Please explain

Intensity reported is 'total water withdrawal' per 'metric tonne of product manufactured for sale' which has increased by 3%. This increase in water intensity is due to the impact of several unplanned outages at major manufacturing sites (Waggaman, Louisiana and Phosphate Hill in Australia). Although a large proportion of this water is cooling water which is returned to the surface waters from which it was taken, net water use is an unreliable indicator of year on year intensity due to the inability of some sites to separate rainfall and snow melt from other discharge (due to the collection and treating of rainfall and snowmelt with other water before discharge).

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	

W2. Business impacts

W2.1

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

Yes

W2.1a

(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and the total financial impact.

Country/Area & River basin

Australia

Other, please specify

Australia - Interior: Georgina Basin

Type of impact driver & Primary impact driver

Physical

Flooding

Primary impact

Supply chain disruption

Description of impact

$115.0m adverse impact from the Queensland rail outage due to a one in 100-year flooding event that resulted in decreased production at the site and therefore a lost opportunity for sales of manufactured ammonium phosphates, and to a lesser extent damaged stocks and plant inefficiencies.

Primary response

Develop flood emergency plans

Total financial impact

115,000,000

Description of response

During the reporting period, a one-in-one hundred year flooding event in north Queensland damaged third party rail infrastructure and interrupted rail services to our remote Phosphate Hill fertiliser manufacturing facility for an extended period. Following this event a detailed review of contingency plans for rail interruptions at the site was completed. As a result, additional on-site and off-site contingency storage was built and a number of 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 review, an internal audit was conducted by KPMG which identified further minor improvements to contingency plans and resulted in an overall rating of ‘satisfactory’.

Country/Area & River basin

Australia

Other, please specify

Prevailing drought conditions were experienced across Northern Victoria, New South Wales and Southern Queensland

Type of impact driver & Primary impact driver

Physical

Drought

Primary impact

Reduced demand for products and services

Description of impact

Prevailing drought conditions in Northern Victoria, New South Wales and Southern Queensland adversely impacted fertilisers sales volumes and mix, decreasing earnings by $33.6m compared to the previous reporting period.

Primary response

Develop new products and/or markets

Total financial impact

33,600,000

Description of response

During 2019, we continued to focus on increasing our capacity to analyse specific farming customer issues relating to soils, crops and crop nutrition, and aiming to solve these issues through the development of innovative products and services. We are committed to helping farmers in ways that may assist them to improve productivity and profitability through expanding and developing our range of products and services. The development of new fertilisers is driven by the needs of farmers and is focused on improving nutrient use efficiency, flexibility and environmental performance. During the reporting period, IPL was 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.

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?

Yes, fines

W2.2a

(W2.2a) Provide the total number and financial value of all water-related fines.

Row 1

Total number of fines

4

Total value of fines

60,225

% of total facilities/operations associated

2

Number of fines compared to previous reporting year

About the same

Comment

During the 2019 financial year (the reporting period) IPL received a number of fines from the Queensland state environmental regulator. Three fines totalling $38,725 were incurred in connection with stormwater releases associated with high intensity rainfall at Phosphate Hill, Australia. Additional stormwater collection and pumping infrastructure has since been installed to reduce the risk of future stormwater release.
In a separate incident, a breach of licence conditions in Townsville relating to the 2016 release of stormwater with elevated levels of ammonia resulted in a fine of $21,500.

W2.2b

(W2.2b) Provide details for all significant fines, enforcement orders and/or other penalties for water-related regulatory violations in the reporting year, and your plans for resolving them.

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 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;	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 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

		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		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. 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.	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:

		No signal word, pictograms, hazard or precautionary statements have been allocated.		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.	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

		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 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 - Category 3 Skin Corrosion - Sub-category 1B Eye Damage - Category 1 Specific target organ toxicity (single exposure) -		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 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 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 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:	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 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

		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		
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 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	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 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

		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		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	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

		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.		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.	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 (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. 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	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

		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. 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		incident preparedness across all sites.
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, dizziness, drowsiness, and possible nausea. Breathing	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 knowledge in product use via our technical support teams and our Dyno Consult

		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 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.		business. At many customer sites, IPL employees handle the product as specialist contractors during use.

		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

• IPL has a formalised process in place to identify risks, both in the supply chain (including water supply) and in the area of HSE (including water discharge, regulations and licencing)
• IPL's risk management methodologies are based on the COSO Enterprise Risk Management Framework and the 31000 Risk Management Standard.
• Each business unit has responsibility for identification and management of risks specific to the business. This is managed through an annual risk workshop, register & 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. 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 reviewed by the Audit and Risk Management Committee of the Board and formally assigned to the ET for management.

• The IPL Climate Change Policy was adopted by the Board during 2019, and the IPL Board Charter and Charter of the Audit and Risk Management Committee were updated to formally enshrine Directors' roles in relation to the strategic management and oversight of climate change-related issues .

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

Supply chain assessments include suppliers of water to IPL and logistics which can be impacted by extreme rainfall events.

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

Assessments include water related impacts (acute rainfall events and chronic changes to rainfall patterns) on IPL's current mining and agricultural customers as well as water-related impacts on regional and global markets relating to mining and agriculture. The Climate Risk Index was utilised in addition to those tools listed above.

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	Water is a key raw material for manufacturing. IPL typically has access to regulated municipal water supply. Where this is not the case long-term supply agreements are put in place. Withdrawal from, and discharge to surface waters and groundwater are usually made under licence with local regulatory authorities who have responsibility for long term water management plans. The WRI Aqueduct Tool is used 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. In 2018, 2 and 4 degree climate related scenarios were created for each of IPL's 13 major manufacturing sites to 2030 and 2050, and included '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'.
Water quality at a basin/catchment level	Relevant, always included	Water is a key raw material for manufacturing. IPL typically has access to regulated municipal water supply. Where this is not the case long-term supply agreements are put in place. Withdrawal from, and discharge to surface water and groundwater are usually made under licence with local regulatory authorities who have responsibility for long term water management plans. Decisions on water treatment / recycling / reduction are normally driven by a cost/benefit assessment, regulatory demands and/or securing quality supply. 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.

Stakeholder conflicts concerning water resources at a basin/catchment 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 groundwater resource.
Implications of water on your key commodities/raw materials	Relevant, always included	Water, particularly high quality cooling water, is a key raw material for manufacturing. IPL typically has access to regulated municipal water supply. Where this is not the case long-term supply agreements are put in place. Withdrawal from, and discharge to surface waters and groundwater are usually made under licence with local regulatory authorities who have responsibility for long term water management plans. Decisions on water treatment / recycling / reduction are normally driven by a cost/benefit assessment, regulatory demands and/or securing quality supply.
Water-related regulatory frameworks	Relevant, always included	Water, particularly high quality cooling water, is a key raw material for manufacturing. IPL typically has access to regulated municipal water supply. Where this is not the case long-term supply agreements are put in place. Withdrawal from, and discharge to surface waters and groundwater are usually made under licence with local regulatory authorities who have responsibility for long term water management plans. Decisions on water treatment / recycling / reduction are normally driven by a cost/benefit assessment, regulatory demands and/or securing quality supply.
Status of ecosystems and habitats	Relevant, sometimes included	The WBCSD Tool (used annually by IPL from 2013 to 2017, until it became obsolete) identified no biodiversity hotspots relevant to IPL operations. Many IPL sites are non-discharge sites.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	All IPL facilities currently provide access to fully-functioning WASH services for all employees. IPL operates primarily in countries identified by the WBCSD Tool (used for the 2013 to 2017 IPL financial years) as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Other contextual issues, please specify		

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, sometimes included	Australian fertiliser customers are included due to risks associated with variable rainfall in Australia. In regard to water supply risks, IPL operates primarily in countries identified by the WBCSD Tool (used for the 2013 to 2017 IPL financial years) as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Employees	Not relevant, explanation provided	IPL operates primarily in countries identified by the WBCSD Tool (used for the 2013 to 2017 IPL financial years) as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Investors	Not relevant, explanation provided	IPL operates primarily in countries identified by the WBCSD Tool (used for the 2013 to 2017 IPL financial years) as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Local communities	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.
NGOs	Not relevant, explanation provided	IPL operates primarily in countries identified by the WBCSD Tool (used for the 2013 to 2017 IPL financial years) as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Other water users at a basin/catchment 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 groundwater resource.

Regulators	Relevant, sometimes included	All IPL sites are in regions where regulators manage water supply and discharge through licensing. IPL operates primarily in countries identified by the WBCSD Tool (used for the 2013 to 2017 IPL financial years) as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
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 groundwater resource.
Suppliers	Relevant, sometimes included	Included only where the suppliers to IPL are suppliers of water.
Water utilities at a local level	Relevant, sometimes included	IPL operates primarily in countries identified by the WBCSD Tool (used for the 2013 to 2017 IPL financial years) as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation. At some major manufacturing sites, utilities at a local level are the main water supply for manufacturing (mainly cooling purposes).
Other stakeholder, please specify		

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 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.

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. 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, which were reviewed by the Audit and Risk Management Committee of the Board and formally assigned to the ET for management. Risk controls and risk control owners were identified in 2019 and the management of these risks will be reported on to the Board through the established risk management reporting process. These risks will also be added to IPL's risk registers for annual review. In addition, the WRI Aqueduct Tool is completed each year for long term projections and reviewed by the Chief Risk Officer.

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?

A substantive 'financial or strategic impact' is defined by IPL as one which affects the organisation's objectives in a manner that is considered material to the extent defined by the IPL Board and recorded in the IPL Risk Matrix.

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	7	1-25	This represents less than 10% of total facilities and approximately 40% of manufacturing facilities.

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

2

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-10

Comment

Facilities reported at 4.1b in Australia include two facilities in the Lake Eyre catchment (and one in the Fitzroy River catchment and one in the North East Australian catchment) which could be impacted by flooding and/or flooding impacting on logistics which connect them to each other and to ports. Impacts on Operations (including supply chain): Some of IPL's manufacturing plants are located in areas that are susceptible to extreme weather events, including one in twenty, fifty or one hundred year flooding events. 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.

Country/Area & River basin

Australia
Fitzroy

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

The facilities reported at 4.1b in Australia include two facilities in the Lake Eyre catchment, this one in the Fitzroy River catchment, and one in the North East Australian catchment, which could be impacted by flooding and/or flooding impacting on logistics (which connect them to each other and to ports). Impacts on Operations (including supply chain): Some of IPL's manufacturing plants are located in areas that are susceptible to extreme weather events, including one in twenty, fifty or one hundred year flooding events. 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.

Country/Area & River basin

Australia

Other, please specify

North east Australian

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

The facilities reported at 4.1b in Australia include two facilities in the Lake Eyre catchment, this one in the Fitzroy River catchment, and one in the North East Australian catchment, which could be impacted by flooding and/or flooding impacting on logistics (which connect them to each other and to ports). Impacts on Operations (including supply chain): Some of IPL's manufacturing plants are located in areas that are susceptible to extreme weather events, including one in twenty, fifty or one hundred year flooding events. 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.

Country/Area & River basin

United States of America

Mississippi River

Number of facilities exposed to water risk

3

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-10

Comment

Impacts on Operations (including supply chain): Some of IPL's manufacturing plants are located in areas that are susceptible to extreme weather events, including one in twenty, fifty or one-hundred-year flooding events. 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.

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

Lake Eyre, Fitzroy River and North East Australian Basins

Type of risk & Primary risk driver

Physical

Flooding

Primary potential impact

Supply chain disruption

Company-specific description

The Australian facilities reported include two facilities in the Lake Eyre catchment, one in the Fitzroy River catchment and one in the North East Australian catchment, which could be impacted by flooding and/or flooding impacting on logistics (which connect them to each other and to ports). Impacts on Operations (including supply chain): Some of IPL's manufacturing plants are located in areas that are susceptible to extreme weather events, including one in twenty, fifty or one hundred year flooding events. 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.

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)

10,000,000

Potential financial impact figure - maximum (currency)

120,000,000

Explanation of financial impact

In the 2016 FY, IPL reported an AUD$20 million impact from a flood derailment (North West Queensland) which impacted on supply chain between the two sites located in the Lake Eyre basin (Mt Isa and Phosphate Hill).

In the 2017 FY, IPL reported an AUD$10 million impact from flooding associated with Cyclone Debbi, which interrupted the road transfer of product from the site in the north-east Australian Basin (Gibson Island) to the site in the Fitzroy Basin (Moranbah).
In the 2019 FY (the current reporting period), IPL reported an AUD$115,000,000 impact related to a temporary production interruption at its Phosphate Hill plant as a result of the closure of the rail line between Townsville and Phosphate Hill as a consequence of a once in a 100-year flooding event in northern Queensland.

Primary response to risk

Develop flood emergency plans

Description of response

During the reporting period, a one-in-one-hundred-year flooding event in north Queensland damaged third party rail infrastructure and interrupted rail services to our remote Phosphate Hill fertiliser manufacturing facility for an extended period. Following this event a detailed review of contingency plans for rail interruptions at the site was completed. As a result, additional on-site and off-site contingency storage was built and a number of 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 review, an internal audit was conducted by KPMG which identified further minor improvements to contingency plans and resulted in an overall rating of ‘satisfactory’.

Due to the nature of our major markets (agriculture and mining) the risks associated with the physical impacts of extreme weather events have been integrated into IPL’s existing risk management processes and corporate strategy for many years, with geographical and market diversification (and, where possible, insurances) remaining a key management strategy. Risks are reported in our Annual Report under ‘Principal Risks’ where they have been identified as such.

Cost of response

7,000,000

Explanation of cost of response

See description of response

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)

10,000,000

Potential financial impact figure - maximum (currency)

35,000,000

Explanation of financial impact

IPL announced an AUD$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

During 2018, IPL reviewed its strategy, governance and funding of research and development. The position of Chief Technology Officer was added to the IPL Executive Leadership Team and six core technology programs were identified to advance IPL's ability to strategically partner with customers to improve their productivity and safety and reduce their environmental and social impacts. Collaborative research and product development, both with our customers and with recognised research bodies, is a core strategy and we aim to be well placed to meet any changed growing conditions which emerge, such as those described by the 2D and 4D scenarios.
During 2019, we continued to focus on increasing our capacity to analyse specific farming customer issues relating to soils, crops and crop nutrition, and aiming to solve these issues through the development of innovative products and services. We are committed to helping farmers in ways that may assist them to improve productivity and profitability through expanding and developing our range of products and services. The development of new fertilisers

is driven by the needs of farmers and is focused on improving nutrient use efficiency, flexibility and environmental performance. During the reporting period, IPL was 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.

In addition, due to the nature of our major markets (agriculture and mining) the risks associated with the physical impacts of extreme weather events have been integrated into IPL's existing risk management processes and corporate strategy for many years, with geographical and market diversification (and, where possible, insurances) remaining a key management strategy. Risks are reported in our Annual Report under 'Principal Risks' where they have been identified as such.

Cost of response

5,904,565

Explanation of cost of response

IPL invested AUD$5,904,565 in R&D in its Australian businesses in the 2019 IPL financial year.

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

During 2019, we continued to focus on increasing our capacity to analyse specific farming customer issues relating to soils, crops and crop nutrition, and aiming to solve these issues through the development of innovative products and services. We are committed to helping farmers in ways that may assist them to improve productivity and profitability through expanding and developing our range of products and services. The development of new fertilisers is driven by the needs of farmers and is focused on improving nutrient use efficiency, flexibility and environmental performance. During the reporting period, IPL was 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

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

In continuing to develop our range of high efficiency fertilisers, developing new fertiliser technologies for sustained food security and developing novel coatings for use in arid conditions, we seek to provide solutions to growing challenges associated with changes in rain fall patterns which may provide greater market share and increase sales.

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

Eyre Lake

Latitude

-21.8814

Longitude

139.9756

Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

4,624.22

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

4,624.22

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)

4,624.22

Comparison of total consumption with previous reporting year

About the same

Please explain

The Phosphate Hill site uses large volumes of cooling water. There was a 1% decrease in water withdrawal from the previous year (2018 FY) and a 19% decrease against the 2017 FY.
The site reduced its water use in 2018 against 2017 usage due to:
(a) a 5% reduction target; and
(b) a scheduled four-year major maintenance shutdown during 2018.
In the current reporting year (2019 FY) water use remained lower due to reduction targets and the impact of flooding on the rail line servicing the site, which caused a temporary interruption to production.

Facility reference number

Facility 2

Facility name (optional)

Mount Isa

Country/Area & River basin

Australia

Eyre Lake

Latitude

-21.143

Longitude

139.187

Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

1,736.76

Comparison of total withdrawals with previous reporting year

Lower

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

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

1,736.76

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)

1,736.76

Comparison of total consumption with previous reporting year

Lower

Please explain

Water use at this site was 20% lower than the previous year. This is due to reduced production associated with a one-in-one-hundred year flooding event which damaged third party rail infrastructure between this site and the Phosphate Hill site (Mount Isa is a supplier of sulphuric acid to Phosphate Hill).

Facility reference number

Facility 3

Facility name (optional)

Gibson Island

Country/Area & River basin

Australia

Other, please specify

North East Australian Basin (Brisbane)

Latitude

-27.442

Longitude

153.118

Located in area with water stress

Yes

Total water withdrawals at this facility (megaliters/year)

1,993.07

Comparison of total withdrawals with previous reporting year

Lower

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

56.237

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

1,936.834

Total water discharges at this facility (megaliters/year)

151.46

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

151.46

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

1,841.47

Comparison of total consumption with previous reporting year

Lower

Please explain

Our Gibson Island site manufactures ammonia and urea and is located near the capital city of Brisbane in Queensland, Australia. Although the WRI Tool identifies the site as being located in a catchment identified as having 'low-to-medium' overall water risk, it is also identified as being subject to 'High (40-80%) Baseline Water Stress due to the large local population and the high inter-annual variability in rainfall.

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 2020, 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.

Gibson Island discharged 151.46 ML of treated stormwater to the Brisbane River very close to the river mouth flowing into the Pacific Ocean.

Facility reference number

Facility 4

Facility name (optional)

Moranbah

Country/Area & River basin

Australia

Fitzroy

Latitude

-21.932

Longitude

148.05

Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

1,961.6

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

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

1,961.607

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)

1,961.6

Comparison of total consumption with previous reporting year

About the same

Please explain

This site uses high volumes of cooling water and used 3% less water than last year. The WRI Aqueduct tool identifies it as being located in a catchment with Low to Medium water stress.

Facility reference number

Facility 5

Facility name (optional)

LOMO (Louisiana Missouri)

Country/Area & River basin

United States of America

Mississippi River

Latitude

39.26

Longitude

-91.3

Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

62.53

Comparison of total withdrawals with previous reporting year

About the same

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

958.192

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

61.573

Total water discharges at this facility (megaliters/year)

159.6

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

159.6

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)

798.59

Comparison of total consumption with previous reporting year

About the same

Please explain

Total discharge at this site includes some rainwater/snowmelt where runoff is collected and treated, and therefore cannot be separately metered.
(Note: Withdrawals from fresh surface water were incorrectly reported for the previous reporting year.)

Facility reference number

Facility 6

Facility name (optional)

WOIL (Wolf Lake Illinois)

Country/Area & River basin

United States of America
Mississippi River

Latitude
37.31

Longitude
-89.27

Located in area with water stress
No

Total water withdrawals at this facility (megaliters/year)
5.13

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
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources

5.13

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)

5.13

Comparison of total consumption with previous reporting year

About the same

Please explain

Facility reference number

Facility 7

Facility name (optional)

GRKY (Graham Kentucky)

Country/Area & River basin

United States of America

Mississippi River

Latitude

37.15

Longitude

-87.16

Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

38.77

Comparison of total withdrawals with previous reporting year

Higher

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

31.23

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

7.54

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)

38.77

Comparison of total consumption with previous reporting year

Higher

Please explain

There has been a 10% increase in water use at the site due to increased production.

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
Chief Executive Officer (CEO)	IPL's highest governing body, the Board of Directors, is responsible for charting the direction, policies, strategies and financial objectives of the Company. The Board serves the interests of the Company and its shareholders, as well as other stakeholders including employees, creditors, customers and the community, in a manner designed to create and continue to build sustainable value. The Board operates in accordance with the principles set out in its Board Charter, which sets out the Board's own tasks and activities, as well as the matters it has reserved for its own consideration and decision-making. Day-to-day management of Company affairs and the implementation of the corporate strategy and policy initiatives, including those relating to water, are formally delegated to the Managing Director & CEO. The Managing Director & CEO and his/her direct reports form the Executive Team.

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 management policies Reviewing and guiding strategy Other, please specify Assessing risks identified using future climate-related scenarios	Water resource considerations are factored into location planning for new operations. 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. Where such location is not possible (for example, where some of IPL's mining customers operate in Australia), a long-term supply contract is secured, usually with the governing body who manages long term water supply in the relevant basin, or with the EPA for groundwater extraction. 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, which were reviewed by the Audit and Risk Management Committee of the Board. During 2019, the Board Charter and its Audit and Risk Management Committee (ARMC) Charter were updated to formally and specifically assign oversight of the Climate Change Policy and climate change-related risks and opportunities to IPL's Directors. The ARMC's duties with respect to internal control and risk management are set out in the Charter for the ARMC, which requires the updating of IPL's future climate-related scenario assessments every three years.

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)

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 Audit and Risk Management Committee, which is a sub-committee of the IPL Board.

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

Safety, Health, Environment and Quality committee

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The HSEC Committee is a sub-committee of the IPL Board. The HSEC function manages environmental compliance in relation to water issues such as withdrawals and discharges made under EPA licencing, as well as potential impacts (including those relating to water) on health, safety, the environment and the community.

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

Facilities manager

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Not reported to board

Please explain

Site Managers manage water related issues regarding supply and onsite uses and report to the President of Global Manufacturing and/or the relevant Business President who reports to the CEO, who is a member of the IPL Board and also reports to 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?

Yes (you may attach the report - this is optional)

IPL_2019_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?	Please explain
Long-term business objectives	No, water-related issues were not reviewed and there are no plans to do so	IPL operates all of its major manufacturing sites in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation. These are Australia and the USA.
Strategy for achieving long-term objectives	No, water-related issues were not reviewed and there are no plans to do so	IPL operates all of its major manufacturing sites in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation. These are Australia and the USA.
Financial planning	No, water-related issues were not reviewed and there are no plans to do so	IPL operates all of its major manufacturing sites in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation. These are Australia and the USA.

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)

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

Water-related OPEX (+/- % change)

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

Please explain

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	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, which were reviewed by the Audit and Risk Management Committee of the Board and formally assigned to the ET for management. During 2019, the Board Charter and its Audit and Risk Management Committee (ARMC) Charter were updated to formally and specifically assign oversight of the Climate Change Policy and climate change-related risks and opportunities to IPL's Directors. The Charter of the ARMC's now requires the updating of IPL's future climate-related scenario assessments every three years.

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 Sustainable Development Scenario Other, please specify 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)	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, 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	1. IPL's own facilities are considered resilient to the anticipated acute physical impacts of climate change, with measures currently in place to manage exposure where sites are located in tornado or hurricane zones. • IPL is developing technology solutions to increase the shelf life of products. Costs for additional storage to stockpile raw materials & product for temporary interruptions to logistics would be immaterial. Additional storage, both onsite and at strategic locations along transport routes may be necessary, along with contingency plans to use alternative forms of transport to access these. We endeavour to include force majeure clauses in agreements where relevant and insurance policies are in place. The Moranbah facility is close to high quality metallurgical coal producers, providing a strategic advantage over 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. 2. We currently sell fertilisers on the spot market to a geographically diverse group of customers and have no

		could result in financial loss if product cannot be stored effectively and degrades.	long term reliance on a particular customer segment. We also have the competitive advantage of having manufacturing sites located primarily in Australia and the USA, countries which have internal demand and can also rebuild port and road infrastructure.

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 operates all of its major manufacturing sites in countries identified by the WBCSD Tool (used between 2013 and 2017) as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation. These 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	Site/facility specific targets and/or goals	Targets are monitored at the corporate level	Targets for water use reduction are set on a site-by-site basis, as opportunities and water issues vary between sites. For example, at IPL's Phosphate Hill fertiliser manufacturing site where water is accessed from a groundwater aquifer, a target of a 5% reduction in total withdrawal was set for 2018 against 2017 withdrawal, with a further 5% reduction in 2019. Due to the impact of flooding at the site in 2019, this target was not achieved and has been reset for achievement in 2020. See 'Our Targets' on page 9 of the 2019 IPL Sustainability Report at https://www.incitecpivot.com.au/~/media/Files/IPL/Sustainability/2019%20IPL%20SR.pdf

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

Site/facility

Primary motivation

Risk mitigation

Description of target

5% reduction in total withdrawal in 2018 against 2017 withdrawal, with a further 5% reduction in 2019

Quantitative metric

Absolute reduction in total water withdrawals

Baseline year

2017

Start year

2017

Target year

2019

% of target achieved

Please explain

The 5% reduction target was met in 2018. The 2019 target was not met due to interruption to normal site operations in the reporting period due to a one-in-one-hundred flooding event. The target has been extended to 2020.

Target reference number

Target 2

Category of target

Other, please specify

Conduct water balance projects

Level

Site/facility

Primary motivation

Risk mitigation

Description of target

Completion of water balance projects at three Australian sites to identify opportunities for greater efficiency

Quantitative metric

Other, please specify

Number of projects begun / completed

Baseline year

2017

Start year

2018

Target year

2019

% of target achieved

Please explain

During 2019, IPL completed water balance projects at three Australian manufacturing sites where water is a material issue.

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	Corporate Sustainability Manager	Environment/Sustainability manager

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

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission
I am submitting my response		Public