Welcome to your CDP Water Security Questionnaire 2019

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 4,700 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, 2017	September 30, 2018

W0.3

(W0.3) Select the countries/regions 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 that are not situated at manufacturing sites across North America	Data is not presently available for water use at these sites, and amounts are not expected to be material.
A small site in Chile	Amounts are not 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 from water stressed areas	100%	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.' The tool identifies one IPL site as 'Extremely high >80%' and four sites as 'High 40-80%.' 100% of the water use and discharge at these sites is regularly measured and monitored. Three of these 5 sites do not manufacture ammonia, and therefore do not require large volumes of water. These are also supplied by local municipal water authorities with long term water management plans. The ammonia manufacturing sites identified are located at Cheyenne, Wyoming and Gibson Island, Brisbane. Total water withdrawal volumes are collected via water invoices, and water meters for all of the activities on all of these sites.
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	50,511	Higher	This is a 6% increase, due mostly to the ramping up of the new Waggaman, Louisiana plant to full production during the year and increased production at several other sites.
Total discharges	30,901	Lower	This is a decrease of 5 percent. 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%) was clean cooling water which was released to the natural waterways from which it was taken.
Total consumption	22,978	Much higher	Total water use has increased by 30%. While there has been increased water use due to production, the 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) Provide the proportion of your total withdrawals sourced from water stressed areas.

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	8.3	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.' The tool identifies one IPL site as 'Extremely high >80%' and four sites as 'High 40-80%.' 100% of the water use at these 5 sites has been included in this calculation. Three of these 5 sites do not manufacture ammonia, and therefore do not require large volumes of water. (The percentage in 2017 was 8.9%).

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	38,592.33	Higher	There has been a 10% increase in fresh surface water withdrawal. This is mostly due to the ramping up of the new Waggaman, Louisiana ammonia plant, which uses fresh river water for non-contact cooling purposes. (this use made up 89.1% of out total water withdrawal in 2018).
Brackish surface water/Seawater	Relevant	1.9	About the same	Desalinated water is used at Donoro, Mexico.

Groundwater – renewable	Relevant	7,147.04	Lower	13 percent less groundwater was extracted in 2018. This is mostly due to a major scheduled maintenance shut down at the Phosphate Hill ammonia manufacturing site, which uses groundwater for cooling purposes.
Groundwater – non-renewable	Not relevant			
Produced/Entrained water	Not relevant			
Third party sources	Relevant	4,769.64	About the same	

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	30,097.36	Lower	This is a decrease of 6 percent. 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, which affects year-on-year comparisons. Most of this discharge (98%) is clean cooling water which was released to the natural waterways from which it was taken.
Brackish surface water/seawater	Not relevant			
Groundwater	Relevant	699.9	About the same	
Third-party destinations	Relevant	103.79	About the same	

W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	1-10	About the same	There have been no major changes to recycling of water.

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)

12.63

Numerator: water aspect

Total water withdrawals

Denominator: unit of production

Other, please specify

Metric tonne

Comparison with previous reporting year

Lower

Please explain

Intensity reported is 'total water withdrawal' per 'metric tonne of product manufactured for sale'. which has decreased by 2%. 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 total financial impact.

Country/Region

Australia

River basin

Eyre Lake

Type of impact driver

Regulatory

Primary impact driver

Other, please specify

High rainfall resulting in pond overflows

Primary impact

Fines, penalties or enforcement orders

Description of impact

During the 2018 financial year, the Group received two penalty infringement notices issued by a regulatory authority arising from the overflow of a site containment pond in Queensland, Australia, which resulted in fines totalling AUD$25,230.

Primary response

Other, please specify

Pond overflow management actions

Total financial impact

Description of response

Country/Region

Australia

River basin

Type of impact driver

Physical

Primary impact driver

Drought

Primary impact

Reduced demand for products and services

Description of impact

Drought conditions in NSW and Southern Queensland (across several basins) had an impact of AUD$19.8 million associated with lower sales volumes and unfavourable sales mix in drought affected areas, as announced in the IPL 2018 Full Year Results presentation available for

download at http://investors.incitecpivot.com.au/phoenix.zhtml?c=170340&p=irol-news

Primary response

Other, please specify

Stronger fertiliser sales volumes were made through diversification and improved value chain management.

Total financial impact

19,800,000

Description of response

Product, market and geographical diversification remains a core management strategy for IPL. Stronger fertiliser sales volumes were made in 2018 through diversification and improved value chain management. Record production was achieved at Moranbah, Australia and at the new Waggaman, Louisiana, USA ammonia plant. Growth in profitability and market share in the US was also achieved through optimising the Company's asset base and customer technology solutions.

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

2

Total value of fines

25,230

% of total facilities/operations associated

1

Number of fines compared to previous reporting year

Lower

Comment

For the 2018 financial year, the Group received two penalty infringement notices issued by a regulatory authority arising from the overflow of a site containment pond in Queensland, Australia, which resulted in fines totalling $25,230

W2.2b

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

Type of penalty

Fine

Financial impact

25,230

Country/Region

Australia

River basin

Eyre Lake

Type of incident

Other non-compliance with permits, standards, or regulations

Description of penalty, incident, regulatory violation, significance, and resolution

For the 2018 financial year, the Group received two penalty infringement notices issued by a regulatory authority arising from the overflow of a site containment pond in Queensland, Australia, which resulted in fines totalling $25,230.

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-	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.

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

		concentrations (above 10mg/L) may render water unsuitable for human and livestock consumption. Classification (Australia): NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. No signal word, pictograms, hazard or precautionary statements have been allocated.	instructions on product use	criteria, and labelling compliant with the National Code of Practice for Fertilizer Description and Labelling. Environmental Health: Although of low toxicity to aquatic life, ammonia based fertilisers, the nutrients (nitrates and phosphates) in ammonia based fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways. It is therefore necessary to prevent/immediately clean up any spills to prevent their entry into waterways. • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • Road sweepers and wheel washes to prevent any product leaving the site. • IPL promotes the Fertcare principles and code of practice for responsible fertiliser use, a joint initiative between Fertilizer Australia Inc. and the Australian Fertiliser Services Association, to our customers.
Single super phosphate (SSP) fertilisers (granulated)	Direct operations Distribution network Product use	Ecotoxicity: 48 hour LC50 (bluegill): 10 mg/L Persistence/Degradability: Not expected to persist in the environment. Phosphates are not toxic to people or animals unless they are present in very high levels. Although of low toxicity to aquatic life, single superphosphate fertilisers can cause algal bloom, and therefore		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)

		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.		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	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	Compliance with effluent quality standards Measures to prevent spillage,	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

	Product use	concentrations may cause breathing difficulty, chest pain, bronchospasm, pink frothy sputum and pulmonary oedema. This may further predispose the patient to the development of acute bronchitis and pneumonia. Overexposure may result in death. Ecotoxicity: Anhydrous ammonia is very toxic to aquatic organisms. In low concentrations in water and soil, ammonia acts as a fertiliser to promote plant growth. Free ammonia concentrations of 2·5 mg per litre at pH 7·4 to 8·5 are considered harmful to marine life. In water ammonia (NH3) is considered to be the primary toxic form while the more 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:	leaching, and leakages Providing best practices instructions on product use	considerable time to evaporate due to its latent heat of evaporation. The hazardous nature of anhydrous ammonia requires emergency and spill procedures to be effective to avoid both human and environmental exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and 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.

		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) - Category 3 Acute Aquatic Toxicity - Category 1		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.
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	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,

		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: 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		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
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.	Compliance with effluent quality standards	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

		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 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.	Measures to prevent spillage, leaching, and leakages	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 incident preparedness across all sites. • Wet scrubbers are used to control fume from storage tanks

		Classification (Australia: CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA GHS classification(s): Skin Corrosion/Irritation: Category 1A		
Urea	Direct operations Distribution network Product use	Human Health: Skin: Contact may result in irritation, redness, pain and rash. Eye: Contact may result in irritation, lacrimation, pain and redness. STOT – single exposure: Over exposure may result in irritation of the nose and throat, with coughing. Ecosystem health: (Pigeon)- Subcutaneous-LDLO=16,000 mg/kg. Since Urea is a fertilizer, it may promote eutrophication in waterways. Non-toxic to aquatic organisms as defined by USEPA. Classification (Australia): NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS. No signal word, pictograms, hazard or precautionary statements have been allocated.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Human Health and Safety: • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria, and labelling compliant with the National Code of Practice for Fertilizer Description and Labelling. Environmental Health: Although of low toxicity to aquatic life, single superphosphate fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways due to provision of phosphates, which are a form of plant nutrition. It is therefore necessary to prevent/immediately clean up any spills to prevent their entry into waterways. • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants

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

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

		Corrosive to Metals - Category 1 Skin Corrosion - Sub-category 1A Eye Damage - Category 1 GHS classification: Corrosive to Metals: Category 1 Skin Corrosion/Irritation: Category 1A		
Diesel	Direct operations Supply chain Distribution network Product use	Human health: Ingestion: Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkeness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia (inflammation of the lung). Eye contact: May be an eye irritant. Overexposure to diesel exhaust fumes may result in eye irritation. Skin contact: Contact with skin will result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis. Repeated exposure may cause skin dryness or cracking. Inhalation: Breathing in vapour may produce respiratory irritation. Breathing in vapour can result in headaches, dizziness, drowsiness, and possible nausea. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is	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 business. At many customer sites, IPL employees handle the product as specialist contractors during use.

		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. 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?

>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. Risk controls and risk control owners are being 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.

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?

>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?

>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 and discharge 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. The 2 and 4 degree scenarios created climate scenarios 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 and discharge 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 and discharge 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 and discharge 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.
Other contextual issues		

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 are being 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 impact on your business, and what is the potential business impact associated with those facilities?

Country/Region

Australia

River basin

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

1-25

Comment

Facilities reported 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/Region

Australia

River basin

Fitzroy River

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

% company's total global revenue that could be affected

1-25

Comment

The facilities reported 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/Region

Australia

River basin

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

1-25

Comment

The Australian facilities reported include two facilities in the Lake Eyre catchment, one in the Fitzroy River catchment and this 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/Region

United States of America

River basin

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

Less than 1%

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/Region

Australia

River basin

Other, please specify

Lake Eyre, Fitzroy River and North East Australian Basins

Type of risk

Physical

Primary risk driver

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

About as likely as 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)

100,000,000

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).

The higher potential financial impact figure takes into account the impact of a one-in-one hundred year flooding event in the north of Australia, where the intensity of rainfall events are expected to increase.

Primary response to risk

Geographic diversification of facilities

Description of response

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.

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 are being identified in 2019 through Bowtie analyses 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.

Cost of response

500,000

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/Region

Australia

River basin

Other, please specify

All basins in the eastern states of Australia

Stage of value chain

Other, please specify

Customer

Type of risk

Physical

Primary risk driver

Other, please specify

Drought and Flooding

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 financial impact

Medium

Likelihood

Likely

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)

20,000,000

Explanation of financial impact

IPL announced an AUD$19.8 million impact due to drought in the 2018 IPL Financial Year.

Primary response to risk

Other, please specify

Product, market and geographical diversification remains a key strategy.

Description of response

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

0

Explanation of cost of response

See description of response

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?

No

W4.3b

(W4.3b) Why does your organization not consider itself to have water-related opportunities?

	Primary reason	Please explain
Row 1	Other, please specify Nature of products, services & customers	The nature of our products, services and customers does not provide water related opportunities. In addition, IPL operates primarily 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.

W5. Facility-level water accounting

W5.1

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

Facility reference number

Facility 1

Facility name (optional)

Phosphate Hill

Country/Region

Australia

River basin

Eyre Lake

Latitude

-21.8814

Longitude

139.9756

Total water withdrawals at this facility (megaliters/year)

4,683.79

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

4,683.79

Comparison of consumption with previous reporting year

Lower

Please explain

The Phosphate Hill site uses large volumes of cooling water. The site reduced its water use against the previous year due to:
(a) a 5% reduction target; and
(b) a scheduled four-year major maintenance shutdown during the period.
Together, these resulted in a 19% decrease in water usage compared to the previous year.

Facility reference number

Facility 2

Facility name (optional)

Mount Isa

Country/Region

Australia

River basin

Eyre Lake

Latitude

-21.143

Longitude

139.187

Total water withdrawals at this facility (megaliters/year)

2,159.7

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

2,159.7

Comparison of consumption with previous reporting year

Higher

Please explain

Water use increased by 13% at this site due to increased production.

Facility reference number

Facility 3

Facility name (optional)

Gibson Island

Country/Region

Australia

River basin

Other, please specify

North East Australian Basin

Latitude

-27.442

Longitude

153.118

Total water withdrawals at this facility (megaliters/year)

2,195.8

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

178.5

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

2,017.3

Comparison of consumption with previous reporting year

About the same

Please explain

This facility uses large volumes of cooling water.

Facility reference number

Facility 4

Facility name (optional)

Moranbah

Country/Region

Australia

River basin

Fitzroy River

Latitude

-21.932

Longitude

148.05

Total water withdrawals at this facility (megaliters/year)

2,026

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

2,026

Comparison of consumption with previous reporting year

About the same

Please explain

This facility uses large volumes of cooling water.

Facility reference number

Facility 5

Facility name (optional)

LOMO (Louisiana Missouri)

Country/Region

United States of America

River basin

Mississippi River

Latitude

39.26

Longitude

-91.3

Total water withdrawals at this facility (megaliters/year)

5,259.5

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

276.3

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

4,983.2

Comparison of consumption with previous reporting year

Higher

Please explain

Usage was slightly higher due to increased production

Facility reference number

Facility 6

Facility name (optional)

WOIL (Wolf Lake Illinois)

Country/Region

United States of America

River basin

Mississippi River

Latitude

37.31

Longitude

-89.27

Total water withdrawals at this facility (megaliters/year)

5.15

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

5.15

Comparison of consumption with previous reporting year

About the same

Please explain

This facility does not require large volumes of cooling water for manufacturing.

Facility reference number

Facility 7

Facility name (optional)

GRKY (Graham Kentucky)

Country/Region

United States of America

River basin

Mississippi River

Latitude

37.15

Longitude

-87.16

Total water withdrawals at this facility (megaliters/year)

39.3

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

0

Comparison of consumption with previous reporting year

About the same

Please explain

This facility does not require large volumes of cooling water for manufacturing.

W5.1a

(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.

Facility reference number

Facility 1

Facility name

Phosphate Hill

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

4,683.79

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

0

Comment

Facility reference number

Facility 2

Facility name

Mount Isa

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

2,159.7

Comment

This water is purchased from the dam which supplies the township of Mount Isa.

Facility reference number

Facility 3

Facility name

Gibson Island

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

19.61

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

2,213.06

Comment

19.61 ML f rainwater was captured and treated on site for use. The remainder of the water was purchased municipal water.

Facility reference number

Facility 4

Facility name

Moranbah

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

2,026

Comment

The purchased water is dam water supplied by a third party.

Facility reference number

Facility 5

Facility name

LOMO (Louisiana, Missouri)

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

5,199.28

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

60.18

Comment

5,199.28 ML of water was fresh river water. The remainder was purchased municipal water.

Facility reference number

Facility 6

Facility name

WOIL (Wolf Lake, Illinois)

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

5.15

Comment

All water was purchased municipal water

Facility reference number

Facility 7

Facility name

GRKY (Graham, Kentucky)

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

30.3

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

9

Comment

9ML was purchased municipal water. The remainder was groundwater.

W5.1b

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

Facility reference number

Facility 1

Facility name

Phosphate Hill

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Phosphate Hill is a 'zero discharge to the environment' site

Facility reference number

Facility 2

Facility name

Mount Isa

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Mount Isa is a zero 'discharge to the environment' site

Facility reference number

Facility 3

Facility name

Gibson Island (Australia)

Fresh surface water

0

Brackish surface water/Seawater

178.5

Groundwater

0

Third party destinations

0

Comment

Gibson Island discharged 178.5 ML of treated stormwater/washwater to the Brisbane River very close to the river mouth flowing into the Pacific Ocean.

Facility reference number

Facility 4

Facility name

Moranbah

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Moranbah is a 'zero discharge to the environment' site

Facility reference number

Facility 5

Facility name

LOMO (Louisiana, Missouri)

Fresh surface water

276.3

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

This discharge was clean cooling water which was returned to the surface waters from which it was taken.

Facility reference number

Facility 6

Facility name

WOIL (Wolf Lake, Illinois)

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

This site is a 'non-discharge to the environment' site.

Facility reference number

Facility 7

Facility name

GRKY (Graham, Kentucky)

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

This facility is a 'non-discharge to the environment' site

W5.1c

(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name

Phosphate Hill

% recycled or reused

1-10%

Comparison with previous reporting year

About the same

Please explain

The majority of the water use at this facility is cooling water. This water is recirculated many times until evaporation.
59.3 ML of water was recovered from waste gypsum stockpiles at the site and reused in the making of fertilisers. This water is rich in phosphates.

Facility reference number

Facility 2

Facility name

Mount Isa

% recycled or reused

None

Comparison with previous reporting year

Please explain

Facility reference number

Facility 3

Facility name

Gibson Island

% recycled or reused

1-10%

Comparison with previous reporting year

About the same

Please explain

216.418 ML of water was recycled using a reverse osmosis water treatment plant for reuse.

Facility reference number

Facility 4

Facility name

Moranbah

% recycled or reused

11-25%

Comparison with previous reporting year

About the same

Please explain

342.993 ML of process water was treated and reused at the Moranbah site.

Facility reference number

Facility 5

Facility name

LOMO (Louisiana, Missouri)

% recycled or reused

None

Comparison with previous reporting year

About the same

Please explain

Most of the water used at this site is single pass non-contact cooling water which is treated and discharged as clean water to the river from which it was taken.

Facility reference number

Facility 6

Facility name

WOIL (Wolf Lake, Illinois)

% recycled or reused

None

Comparison with previous reporting year

About the same

Please explain

Facility reference number

Facility 7

Facility name

GRKY (Graham, Kentucky)

% recycled or reused

None

Comparison with previous reporting year

About the same

Please explain

W5.1d

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

Water withdrawals – total volumes

% verified

Not verified

What standard and methodology was used?

Water withdrawals – volume by source

% verified

Not verified

What standard and methodology was used?

Water withdrawals – quality

% verified

Not verified

What standard and methodology was used?

Water discharges – total volumes

% verified

Not verified

What standard and methodology was used?

Water discharges – volume by destination

% verified

Not verified

What standard and methodology was used?

Water discharges – volume by treatment method

% verified

Not verified

What standard and methodology was used?

Water discharge quality – quality by standard effluent parameters

% verified

Not verified

What standard and methodology was used?

Water discharge quality – temperature

% verified

Not verified

What standard and methodology was used?

Water consumption – total volume

% verified

Not verified

What standard and methodology was used?

Water recycled/reused

% verified

Not verified

What standard and methodology was used?

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

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	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. For example, the Waggaman, Louisiana plant was recently constructed close to the Mississippi River in Louisiana, USA, where surface water is obtained under EPA licence, for non-contact cooling. The water is treated and returned to the river as 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.

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.

W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4

(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

No, and we do not plan to introduce them in the next two years

W6.5

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

No

W6.6

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

No, and we have no plans to do so

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 not yet reviewed, but there are plans to do so in the next two years	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	During 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. Risk controls and risk control owners are being identified in 2019 through Bowtie analyses 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. Risk owners for some of the identified risks will be member of the IPL Executive Strategy Team.

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 scenario(s)	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,	1. IPL's own manufacturing facilities are considered resilient to the anticipated acute physical impacts of climate change, with measures currently in place to manage exposure where sites are located in tornado or hurricane zones. For example, the Waggaman Louisiana plant was built to comply with wind codes set out by the International Building Code Design Standard IBC 20 and Minimum Design Loads for Buildings and Other Structures ASCE 7-05. The design was signed off by a Louisiana based certified Professional Engineer with experience in design standards for the region, where the impacts of future hurricanes must be considered. 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

		primarily mining and agriculture.	supply chain interruption. 2. We currently sell fertilisers on the spot market to a geographically diverse group of customers and have no 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. See https://www.incitecpivot.com.au/sustainability/ipl-online-sustainability-report/sustainability-report/our-targets

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

% achieved

50

Please explain

The 5% reduction target was met in 2018. The 2019 target is yet to be met.

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

% achieved

50

Please explain

During 2018, IPL began water balance projects at three Australian manufacturing sites where water is a material issue.

W9. Linkages and trade-offs

W9.1

(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?

Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased energy use

Description of linkage/tradeoff

In order for IPL to ensure water supply at some sites, and manage water use and discharge at some sites, water treatment plants are used. This increases energy use and therefore greenhouse gas emissions related to these sites.

Policy or action

Install water treatment plant to ensure water supply and/or manage water use and discharge.

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased GHG emissions

Description of linkage/tradeoff

In order for IPL to ensure water supply at some sites, and manage water use and discharge at some sites, water treatment plants are used. This increases energy use and therefore greenhouse gas emissions related to these sites.

Policy or action

Install water treatment plant to ensure water supply and/or manage water use and discharge.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

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

W11. 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.

W11.1

(W11.1) 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

W11.2

(W11.2) 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

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

Please confirm below

I have read and accept the applicable Terms