



Sustainability Report 2017

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IPL defines Sustainability as ‘the creation of long term economic value whilst caring for our people, our communities and our environment’. This commitment to Sustainability is driven by the Company’s Values and is core to the way IPL operates its business.

For eight years Incitec Pivot Limited (IPL) has produced a stand-alone Sustainability Report, incrementally improving disclosure each year against the Global Reporting Initiative (GRI) Guidelines. This year is the fourth year that sustainability performance data has been included in the [Annual Report](#), thereby providing an account of IPL’s annual economic, environmental, social and governance performance in one document.

This online interactive Sustainability Report contains further information on those issues most material to the sustainability of IPL in 2017, so that stakeholders can better understand our social, environmental and safety focus and performance. The Report covers the 12 month period from 1 October 2016 to 30 September 2017, the Company’s financial year. Our last Sustainability Report was for the 2016 IPL financial year and was also published online in April 2017. It can be downloaded [here](#).

This Report covers the performance of IPL and its subsidiaries and the activities over which we had operational control for all or part of the financial year ended 30 September 2017. This period is referred to throughout the Report as ‘2017’. Together, this Report, the [2017 Sustainability Summary](#), the [2017 Annual Report](#) and the [2017 Corporate Governance Statement](#) provide the full account of IPL’s performance for the period.

This Report has been prepared in accordance with the Global Reporting Initiative’s (GRI) ‘G4’ Sustainability Reporting Guidelines (G4) which have been applied at a ‘Core’ level. See our [GRI Index](#) here.

Prior year Sustainability Reports can be found in the Sustainability section of our website at www.incitecpivot.com.au/sustainability. We recognise the need to report on issues most relevant to our business and our key stakeholders, and we welcome feedback on this Report and our sustainability progress. Please direct any questions or comments regarding this Report or its content to us via sustainability.feedback@incitecpivot.com.au.

A Message from the Chairman

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During 2017 IPL continued to create long term economic value while caring for our people, our communities and our environment. We remain committed to operating in a manner which acknowledges and proactively manages those issues which are most material to the long term sustainability of our business, the environment and the communities in which we operate.

Safety remains our number one priority at IPL and everywhere I go in the Group, it is clear that all our people share our objective of Zero Harm. In 2012 we set a number of 5-year targets in the area of safety, including reducing the Total Recordable Injury Frequency Rate (TRIFR) to less than 1. In 2017 we achieved a TRIFR of 0.9, a 35% reduction since 2012, and, in addition, our Employee Lost Day Severity Rate declined by 89% over the same period. While these are very encouraging results, we recognise that there can never be room for complacency in the area of safety. 84% of our sites were free of recordable injuries in 2017 and this must be our objective everywhere we operate.

Energy efficiency, reducing waste and water use and managing our impact in the context of climate change continue to be key parts of our environmental focus. Although our total use of natural resources increased this year due to the newly commissioned Waggaman, Louisiana plant, which increased IPL's ammonia production, our continued investment in emissions abatement technology and in the new energy efficient Waggaman plant allowed us to achieve targeted global reductions in greenhouse gas emissions per tonne of ammonia and nitric acid, as well as significant reductions in our total global nitrogen oxide (NOx) and sulphur oxide (SOx) emissions. In addition, the new plant created 65 above-average wage positions and 466 flow-on positions, creating extra-financial social value in the local community, which we quantified through our first Social Return On Investment (SROI) analysis.

Diversity also remains a key focus for IPL. In 2017, we continued to progress our diversity agenda with a particular focus on strengthening the talent pipeline so that we can increase the number of women in the Company. To meet this commitment, the Board and management established a target to increase the percentage of women across the business by 10% year-on-year and to achieve a minimum participation rate globally of 25% women by 30 September 2022. This is an important strategic action which is underpinned by our diversity principle of "Shaping our Future Organisation".

On 14 November 2017 James Fazzino stepped down as Managing Director & CEO after almost 9 years in the role. Jeanne Johns commenced as Managing Director & CEO on 15 November 2017. Jeanne is a truly global executive with deep experience in leading manufacturing operations and is uniquely qualified to lead both personal and process safety initiatives given her previous leadership role as Head of Safety & Operational Risk for BP Downstream, to which she was appointed in the wake of the Deepwater Horizon disaster. Jeanne's global experience, leadership and customer focus are strongly aligned to our Company strategy.

For the fourth year, this online Sustainability Report supplements the short form Sustainability Report in our Annual Report. Our objective is to meet the needs of our diverse stakeholder group in an efficient and effective manner. I invite you to read it and welcome any [feedback](#) you may have.

Paul Brasher
Chairman

Sustainability Scorecard

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The Sustainability Scorecard shows our performance across a range of economic, social and environmental indicators.

Indicator	Unit of measure	2015	2016	2017
Product manufactured for sale	(million tonnes)	3.1	3.1	3.7
Environment		2015	2016	2017
Emissions				
Direct GHG emissions (Scope 1)	Tonnes	2,349,535	2,452,536	2,749,847
Indirect GHG emissions (Scope 2)	CO ₂ e	355,916	307,727	336,707
Total GHG emissions ¹		2,705,450	2,760,263	3,086,553
Proportion of energy derived from fossil fuels ²	%	95% approx	95% approx	95% approx
Energy				
Global direct energy consumption	GJ	44,070,102	44,972,204	61,972,212
Water				
Gross water use	GL	41.6 ³	43.8	47.6
Water discharge ⁴	GL	32.1	35.6	32.4
Net water use ⁵	GL	10.5 ³	9.3	15.6
Waste				
Global solid waste	kt	7.6	8.3	6.5
Australian solid waste	kt	4.1	3.5	4.1
Global solid chemical waste	kt	2,177.5	2,134.3	2,224.6
Australian solid chemical waste	kt	2,177.3	2,133.2	2,224.1
Global liquid waste	ML	15.2	14.3	15.2
Australian liquid waste	ML	13.7	9.7	10.7
Environmental compliance				
Environmental Incident Frequency Rate (EIFR) ⁶		0.75	0.32	0.49
Safety		2015	2016	2017
Total recordable Injury Frequency Rate (TRIFR) ⁷		0.73 ⁸	0.82 ⁸	0.90 ⁹
Employee Fatalities		1	0	0
Contractor Fatalities		0	0	0
People		2015	2016	2017
Total workforce (excluding contractors)				
Americas		4,721	4,584	4,570
Asia Pacific		2,440	2,283	2,328
Europe		2,072	2,089	1,971
		209	212	271
Gender—Diversity (% of women)				
Board ¹⁰		28.6%	28.6%	25.0%
Executive		12.5%	33.3%	33.3%
Senior Management ¹¹		15.3%	16.9%	18.8%
Management ¹²		16.3%	11.5%	11.3%
Global		15.8%	15.8%	15.8%

This report is published as an interactive online report. Visit the website to access online features at www.incitepivot.com.au/sustainability

Indicator	Unit of measure	2015	2016	2017
Direct Economic Value Generated and Distributed				
A. Direct economic value generated				
Revenues	AUD\$Mil	3,683.9	3,390.4	3,533.1
B. Economic value distributed				
Operating costs, including payments to suppliers, non-strategic investments and royalties		3,630.9	3,531.4	3,529.5
Employee wages and benefits: total monetary outflows for employees (current payments, not future commitments)		2,609.6	2,465.3	2,620.3
Payment to providers of capital, including dividends and interest		633.7	636.7	602.9
Government taxes (income tax, payroll tax, Australian goods and services, fringe benefits taxes and Australian fuel tax credits)		194.5	194.0	154.7
Voluntary community investments (including donations of cash, in-kind support and employee time)		192.7	235.1	151.2
C. Economic value retained (A-B)		0.4	0.3	0.4
		53.0	(141.0)	3.6
Government Taxes paid per country (AUD\$Mil)				
Australia		101.4 ¹³	152.1 ¹³	75.4 ¹³
United States		40.2	34.8	28.6
Mexico		9.5	7.3	7.6
Canada		35.0	29.7	28.1
Chile		1.1	2.5	2.5
Hong Kong		0.0	0.0	0.0
Turkey		0.0	5.8	4.4
Indonesia		3.6	1.6	3.6
Papua New Guinea		1.9	1.3	1.0

1. Scope 1 + 2.

2. Excluding natural gas and diesel used as production raw material.

3. Restated due to improvements in cooling water data collection systems.

4. Includes stormwater at sites where it is captured and treated along with other discharge before release.

5. Gross water use minus clean water discharge.

6. Number of environmental incidents per 1,000,000 man hours worked which exceed licence conditions and create a material or off-site environmental impact with a consequence category of 3 and above; have resulted in a regulator (e.g. EPA) fine of any value; or are a community complaint that stops production.

7. Total Recordable Injury Frequency Rate: the number of recordable injuries per 200,000 hours worked; includes contractors unless otherwise indicated.

8. Restated due to finalisation of classification of incidents pending at the time of previous publication dates.

9. Subject to finalisation of classification of any pending incidents.

10. J Fazzino, Managing Director & CEO was classified as a Board member.

11. Defined as roles which are 1-2 levels below the Executive Team.

12. Defined as roles that are 3-4 levels below the Executive Team.

13. Volatility in Australian taxes paid year on year is due to changes in IPL's Australian business earnings.

Benchmarking Our Performance

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To create real value for all our stakeholders, we are committed to improving the quality and quantity of the data we use to report. This requires benchmarking our performance against other companies in the chemicals sector and sharing our findings.

MEMBER OF
Dow Jones Sustainability Indices

In Collaboration with RobecoSAM

The DJSI is widely recognised as the leading reference point in the growing field of ESG investing due to the robustness of the assessment process. Since 2010 IPL has been included in the Dow Jones Sustainability Index (DJSI) and our performance is benchmarked against peers in the global 'Chemicals' sector.

Dimension	2010	2011	2012	2013	2014	2015	2016	2017
Economic	61	61	59	70	65	67	74	73
Environmental	51	50	51	59	60	51	60	61
Social	37	45	63	68	67	63	65	68
Total for IPL	49	51	58	66	64	60	67	68
Chemicals sector average	55	57	55	52	55	58	56	53

FTSE Group confirms that IPL has been independently assessed according to the FTSE4Good criteria, and has satisfied the requirements to remain a constituent of the FTSE4Good Index Series in 2017. Created by the global index company FTSE Group, FTSE4Good is an equity index series that is designed to facilitate investment in companies that meet globally recognised corporate responsibility standards. Companies in the FTSE4Good Index Series have met stringent environmental, social and governance criteria, and are positioned to capitalise on the benefits of responsible business practice.



FTSE4Good

EcoVadis assists companies in improving environmental and social practices by leveraging the influence of global supply chains. It operates the first collaborative platform that enables companies to monitor the Sustainability performance of their suppliers, across 150 sectors and 99 countries. Through participation, EcoVadis reliable ratings allow companies to manage risks and drive eco-innovations in their global supply chains. IPL was awarded a Bronze EcoVadis Rating in 2017, and will complete the survey as required.



Carbon Disclosure Project For over a decade CDP has worked with companies to catalyse action towards a more sustainable world. This is a world with significant opportunities for business. Companies that measure their environmental risk are better able to manage it strategically. And those that are transparent and disclose this information are providing decision makers with access to a critical source of global data that delivers the evidence and insight required to drive action. Our most recent CDP report, for the 2016 IPL year, can be downloaded [here](#).



CDP is also working to catalyse action on corporate water stewardship to safeguard water resources and address the global water crisis - one of the most significant challenges facing the global economy. Through participation in [CDP's water questionnaire](#), IPL provides investors with access to material data, consistently reported, on assessment and actions that lead to more responsible use of freshwater resources. Importantly, participation in CDP's water program will help ensure the right to water for current and future generations. As part of this reporting project, IPL uses the World Business Council for Sustainable Development Global Water Tool to assess our global water use and discharge.



Our Approach

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Sustainability Strategy

IPL defines Sustainability as ‘the creation of long term economic value whilst caring for our people, our communities and our environment’. This commitment to Sustainability is driven by the Company’s Values and is core to the way IPL operates its business.

We recognise that sustainable growth requires acknowledging and proactively managing those issues which are most material to the long term sustainability of our business, our environment and the communities in which we operate.

These issues 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 our stakeholders.

In 2010, IPL’s Board and Executive Team approved a sustainability strategy to use ‘sustainability’ as a tool to think more broadly across all aspects of our business. This enabled us to focus on specific sustainable and value creating projects in line with our business objectives. The projects were selected to progress three initial focus areas that we refer to as our ‘Use Less, Get Close, Be Responsible’ agenda.

During 2014 a formal review of the Company’s sustainability performance to date was undertaken and the existing strategy for operational sites was reaffirmed. It was also determined that IPL should seek to influence suppliers to promote alignment with the Company’s corporate values and continue the sustainable development of its supply chain. In 2017 we continued to focus on education, training and awareness to further embed principles of sustainable resource use and environmental best practice across the business, as well as through BEx practices, resulting in a more integrated approach to sustainable practices.

The Precautionary Principle

The Precautionary Principle advises that when an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. IPL recognises that there are risks and opportunities associated with climate change, and our risk management procedures associated with these are reported in our [CDP](#) response, our [Annual Report](#) under Principal Risks, and under [Managing Climate Change](#) in this report. We also seek to mitigate our impact by reducing our [energy use and greenhouse gas emissions](#).

Continuous Improvement through BEx

Business Excellence (BEx) is the IPL Business System for continuous and focused improvement. BEx is strongly aligned to IPL’s Corporate Values and has lean thinking at its core. Through BEx there is continuous review, measurement of business performance and improvement of the processes and systems that support sustainable business practices.

VISION STATEMENT

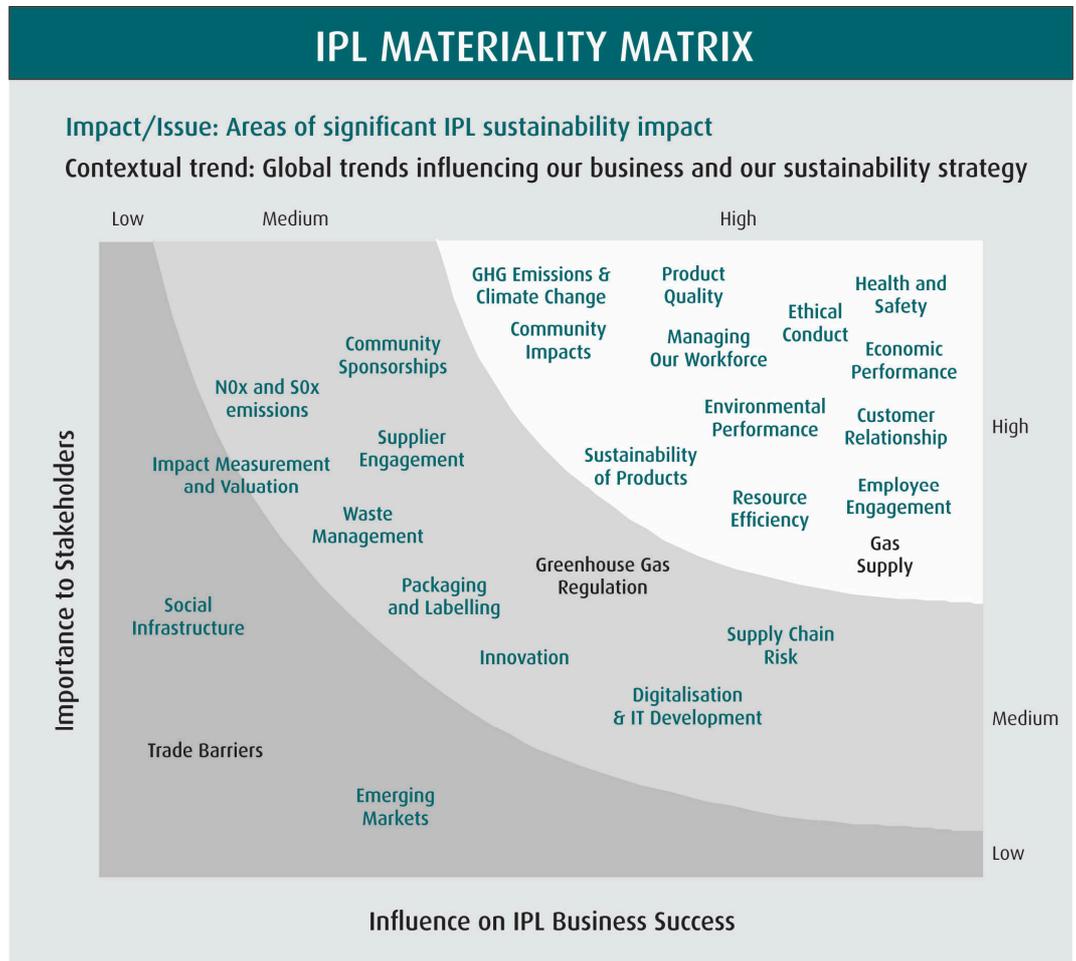
To be the best in our markets, delivering Zero Harm and outstanding business performance through our people, our culture and our customer focus.

VALUES



Content Selection Process

IPL recognises the need to provide focused and accessible disclosures on the issues that are most important to our stakeholders. With this in mind, we conduct a biennial formal materiality assessment to identify and rank the issues that matter most to our stakeholders, and to our business success. The output of the most recent review, conducted in 2017, is shown below as a materiality matrix. ‘Economic Performance’ and ‘Gas Supply’ are addressed in the [IPL 2017 Annual Report](#). The other top 10 material issues have been used to shape this report and are identified throughout by the ♦ symbol.



Materiality Assessment Process

1. IDENTIFICATION We identified the stakeholders who have a direct relationship with, or are impacted by, our business. These are listed in column one of the [Stakeholder Engagement table](#) below. We reviewed risk registers, sector issues and business communications, and researched publicly available information on sustainability issues in our sector. We also engaged with key stakeholders as detailed in our [Stakeholder Engagement table](#) to identify key issues.

2. PRIORITISATION Having identified our key stakeholders and a comprehensive list of issues, we then tailored six targeted ‘issue-scoring’ surveys to clarify and prioritise those issues most important to our stakeholders, including: customers; employees; suppliers and business partners; investors and shareholders; and local communities and residents. Issues were also scored by internal IPL stakeholders, and graphed to create the matrix above.

3. VALIDATION The twelve most material aspects (identified as ‘High’ in the Materiality Matrix above) were assessed against the Scope of our previous reports and significant alignment was found. The impact boundaries of each of these issues were also determined and are included in the [Materiality and GRI Aspects table](#). This online report, together with our [Annual Report](#), our four page [Sustainability Summary and our Corporate Governance Statement](#) (collectively, our public reporting), address each of these material issues to a G4 ‘Core’ level. Content is also included for some issues identified as ‘Medium’ on the Materiality Matrix above.

3. REVIEW As part of the validation process, our previous year’s reports were reviewed with stakeholder feedback in mind. This report, and relevant stakeholder feedback will also be reviewed as part of the next reporting cycle.

Stakeholder Engagement

Stakeholder Group	Stakeholders	Concerns and Interests	Engagement Strategies
Employees and contractors	Our employees and contractors include a wide range of language speakers and cultural groups	Health, safety and working conditions; economic performance of IPL; ethical performance of IPL; career and development opportunities; remuneration; performance management; senior leadership/corporate strategy	Direct engagement at IPL sites, including BEX leadership as coaching; direct participation and/or representation on site based Zero Harm Committees; real time 'Safety Alerts' via internal email; 'The Hub' intranet communications, including a range of newsletters, external HSE Alerts and links for employee feedback; interactive/collaborative annual employee performance management process; Indigenous Engagement Strategy (Australia); internal workshops and conferences; organisational culture surveys and spot 'health checks'
Customers - mining	Large companies and distributors in the mining, quarrying, seismic and construction industries	Cost; reliability of supply; product quality; access to specialist advice; sustainable performance of IPL and its products in relation to safety and environmental impacts	Direct engagement at customer sites; collaborative problem solving to meet customer needs; participation in EcoVadis customer sustainability questionnaires; customer technical workshops; dedicated Customer Relationship Managers; collaborative product research and development
Customers - fertilisers	Business partners, and agents who distribute IPL's bulk and packaged fertiliser products, agronomists, farmers who receive our products directly and through agents	Cost; efficiency/yield improvement; access to agronomy expertise and customer soils/plant testing; social licence to operate; sustainable performance of IPL products in relation to environmental impacts, including leaching and climate change	Direct engagement with customers; engagement during collaborative tailoring of product use through Nutrient Advantage laboratory soil and plant testing; Nutrient Advantage Advice interactive software and app; monitoring of customer satisfaction through Net Promoter Score software and Fertshed, IPL's online customer transactional portal; collaborative product research and development; online 'Agronomy Community' engagement; in person Agronomy Community Forums; formal complaint/product feedback process
Suppliers and business partners	Local businesses to large international organisations and joint venture partners	Supply agreements; reliable payment processes; health and safety performance; social, environmental and governance requirements	Direct engagement; supplier questionnaires; supplier audits; supplier Performance Scorecards; conditions of contracts; regular meetings with joint venture partners
Shareholders and the investment community	Retail, institutional and individual shareholders	Company performance; governance; investor sustainability ratings (CDP, DJSI, FTSE4Good); management of water (Australia); raw materials sourcing; management of climate change related risks	ASX announcements, Annual General Meeting; Sustainability Investor Briefings; half-year and end-of-year results presentations and webcasts; direct shareholder engagement including calls and meetings, with feedback to the Board where appropriate; shareholders may also write to the Chairman of the Board
Community and local residents	Individuals and groups local to our operations	Employment opportunities; business development; sponsorship and donations; local operational impacts; company environmental compliance; cultural heritage; transparency	Site-specific programs for community contact, information sharing and community investment; employment opportunities via the IPL and Dyno Nobel websites; direct engagement with individuals; systems to register, investigate and promptly respond to community complaints
Government	Local, state and national regulators and government agencies	Regulatory compliance; research and development; local community issues	Direct engagement with government and regulatory agencies in the countries in which we operate; written submissions regarding regulatory impact either directly or via professional groups or industry associations

Materiality and GRI Aspects

For the purposes of applying the GRI G4 guidelines, the material issues identified by IPL have been mapped back to the 'Aspects' identified in the guidelines. The following table outlines these aspects, as well as whether the primary boundary for each aspect falls within and/or outside the organisation. All aspects have the potential to affect stakeholders outside the organisation secondarily.

Material Issue	General Std Disclosure		Specific Standard Disclosure		Aspect Boundary
	GRI Category	GRI CATEGORY -Sub Category	GRI Aspect		
Workplace Health and Safety		SOCIAL- Labour practises and decent work	Occupational Health and Safety		Within IPL – our employees and contractors
Ethical Conduct	Ethics and Integrity	-			Within IPL Outside IPL – stakeholders we deal with
Economic Performance	-	ECONOMIC	Economic performance		Within IPL Outside of IPL – our shareholders and investors
Climate Change	-	ECONOMIC	Economic performance		Within IPL Outside of IPL – our shareholders and investors
Mitigating Environmental Impacts		ENVIRONMENTAL	Compliance		Within IPL – Our on-site environments Outside IPL – the local environments close to our operational and development projects, and potentially, the broader environment
Energy Use, GHG Emissions		ENVIRONMENTAL	Energy Emissions		Within IPL Outside IPL – customers, communities and the environment within the countries in which we operate, and globally with respect to climate change
Resource Efficiency		ENVIRONMENTAL	Water		Within IPL – Use of the WBCSD Water Tool has identified 5 Australian IPL facilities as being located in areas of 'Extremely High Baseline Water Stress'. A sixth identified site at Cheyenne, Wyoming, USA, has an 'Annual Renewable Water Supply per Person (projected for 2025)' of greater than 4000 m3 Outside of IPL – the relevant local communities, other local water users and, at Cheyenne, the river basin management authority (the State Engineer's Office in Wyoming)
Sustainability of Products and Services		ENVIRONMENTAL	Products and Services		Outside of IPL – the environmental performance of our customers and the impacts on their environments globally
		PRODUCT RESPONSIBILITY	Product and Service Labelling		Within IPL – our employees Outside IPL – our customers, and our external product transporters and handlers globally
Managing Our Workforce		SOCIAL- Labour practises and decent work	Training and Education		Within IPL – our employees and contractors
			Diversity and Equal Opportunity		Within IPL – our employees and contractors
Employee Engagement	-	-	-		Within IPL – our employees and contractors
Community Relations	Community Relations	SOCIAL-Society	Local Communities		Within IPL Outside of IPL – the local communities in which we operate
Customer Relationships; Product Quality	-	-	-		Within IPL Outside IPL – our customers globally
Gas Supply	-	-	-		Within IPL. This issue is addressed on Page 19 of the 2017 IPL Annual Report under 'Risk'

Our Targets

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	2017 Target	2017 Performance	Future Targets
◆ Workplace Health and Safety			
	TRIFR <1	✓ TRIFR 0.90	TRIFR <1 in 2018
◆ Environmental Compliance			
	EIFR <1	✓ EIFR 0.49	EIFR <0.9 in 2018
◆ Ethical Conduct			
Face to face training in Anti-Bribery and Sanctions in 2017	✓	Face to face training in Anti-bribery and Sanctions laws was conducted for all applicable employees	Face to face training in Competition/Antitrust for all applicable employees in 2018
NOx emissions			
30% reduction in NOx emissions per tonne nitric acid produced globally in 2017	✓	33% reduction in NOx emissions per tonne nitric acid produced globally in 2017	Maintenance, within 10%, of the 2017 targeted intensity of 0.002 tNOx per tonne of nitric acid produced globally
◆ GHG Emissions			
3% global reduction tCO2e/t nitric acid produced by 2017	✓	9% global reduction tCO2e/t nitric acid produced	Maintenance, within 10%, of the 2017 targeted intensities of 2.04 tCO2e and 0.4 tCO2e per tonne of ammonia and nitric acid produced respectively
2% global reduction tCO2e/t ammonia produced by 2017	✓	5% global reduction tCO2e/t ammonia produced	
◆ Water			
5% reduction in total water withdrawal at Phosphate Hill in 2017	✗	Phosphate Hill water reduction delayed due to linking of project with construction of new stormwater management evaporation pond	5% reduction in total water withdrawal at Phosphate Hill in 2018, with a further 5% in 2019
◆ Managing Our Workforce			
Increase in women holding management and senior management positions	✓	9% increase in women in senior management; 2% decrease in women in management positions.	10% year-on-year increase in women in the global business and 25% women by 2022
◆ Product Quality			
<0.1% fertiliser sales compensation due to quality issues	✓	0.071% fertiliser sales compensation due to quality Issues	<0.1% fertiliser sales compensation due to quality issues in 2018
Global Explosives Initiating Systems Manufacturing quality 'Escape Rate' < 1	✓	0.30 Escape Rate in 2017	Global Explosives Initiating Systems Manufacturing quality 'Escape Rate' < 1 in 2018
◆ Community Impacts			
100% compliance with required Community Safety Communications	✓	Target Achieved	100% compliance with required Community Safety Communications in 2018

How We Operate

◆ Material issue

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We are committed to achieving and demonstrating the highest standards of corporate governance. Our governance framework and practices are consistent with the Australian Securities Exchange (ASX) Corporate Governance Council’s Corporate Governance Principles and Recommendations.

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. To assist the Board in meeting its responsibilities, the Board currently has the following four Committees:

- the Audit and Risk Management Committee;
- the Nominations Committee;
- the Remuneration Committee; and
- the Health, Safety, Environment and Community Committee.

Day-to-day management of Company affairs and the implementation of the corporate strategy and policy initiatives are formally delegated to the Managing Director & CEO. The Managing Director & CEO and his/her direct reports form the Executive Team. This team also has a sub-committee called the Zero Harm Council.

During 2017, responsibility for sustainability strategy and governance resided with the Executive Team, advised by the Corporate Sustainability Manager under the Group Vice President, Investor Relations & Corporate Development. The Group Vice President, Investor Relations and Corporate Development reports to the Chief Financial Officer, thereby providing alignment with the financial performance for the Company and overall risk management.

Key policies and systems

We are committed to operating to the highest standards of ethical behaviour and honesty, with full regard for the health and safety of our employees, customers, the wider community and the environment. As part of our commitment to operating to the highest standards of ethical behaviour, we have a range of policies and systems that set ethical standards for directors, senior management and employees. These policies describe core principles designed to ensure ethical conduct is maintained in the interests of shareholders and other stakeholders.

ETHICS & CONDUCT

The IPL Code of Conduct was reviewed in 2016 and sets out the Company’s global code for business conduct. It contains principles and standards of conduct which are based on the Company’s values and represents the Company’s commitment to uphold ethical business practices and meet applicable legal requirements. The Code applies to all directors, officers and employees of the Company and each

subsidiary, partnership, venture and business association including agents and other contractors that are effectively controlled by the Company or act on its behalf.

ZERO HARM FOR EVERYONE EVERYWHERE

The IPL [Health, Safety, Environment & Community Policy](#) sets out our commitment to our Values of “Zero Harm for Everyone Everywhere” and “Care for the Community and our Environment”. The Policy provides that we establish and maintain health and safety management standards and systems in compliance with relevant industry standards and regulatory requirements, and that we will provide a safe and healthy working environment. The Policy also provides for us to conduct our operations in compliance with all relevant environmental licences and regulations, and to strive to be a valued corporate citizen in the communities in which we operate.

ANTI BRIBERY FRAUD & CORRUPTION

The [IPL Anti-Bribery and Improper Payments Policy](#) prohibits the making of unlawful or improper payments to any individual or entity and outlines the processes for ensuring that appropriate controls are implemented in relation to third parties who are engaged to act on our behalf. The policy forms part of, and is supported by, the Fraud and Corruption Control framework. The Policy was updated in 2016 to reflect changes to Australian law and we conducted face-to-face training in anti-bribery, competition laws and company requirements for applicable employees during 2016 and 2017. In addition, a mandatory online Fraud & Corruption training course was implemented for all employees through IPL's Learning and Development Platform.

SANCTIONS

Our [Sanctions Policy](#) outlines the expected standards of conduct relevant to the Group's compliance with Australian and international sanctions laws when engaging in international trade. This includes engagement in appropriate due diligence in relation to third parties, transactions or activities that present a potential risk in relation to sanctions laws compliance. Face to face training was provided to all applicable employees in 2017.

CONFLICT OF INTEREST

During 2017, a dedicated Global Conflict of Interest for Personnel policy was developed. The policy aims to ensure employees and full-time contractors understand the key principles regarding conflicts of interest and, in particular, are able to identify circumstances which may give rise to a conflict of interest and understand the processes to disclose and manage conflicts of interest.

GROUP RISK

Our [Group Risk Policy](#) and risk management process ensures that risk is managed within a comprehensive risk management process which is consistent with the Australian/New Zealand Standard for Risk Management (AS/NZS ISO 31000:2009). A key element of this risk management process is the Board's assessment of risk, which is based on the level of risk we are prepared to sustain in achieving the corporate objective of delivering value to shareholders. Risks are identified, analysed and prioritised using common methodologies and risk controls are designed and implemented having regard to the overall corporate strategy. To help ensure quality and consistency in the identification, assessment, documentation, management and reporting of risk, a complete risk management document suite is available to all employees via the company's intranet. The document suite is further supported by comprehensive training programs that are tailored to specific employees' needs and delivered via on-line media and face to face workshops.

SUSTAINABLE COMMUNITIES

Our [Sustainable Communities Policy](#) includes our commitment to listen to and work with the community, strive to be a valued corporate citizen in the communities where we operate; and respect our neighbours, their values and cultural heritage and be considerate to them in carrying out our operations. At IPL, we are committed to being an inclusive and accessible organisation through the development of a culture that embraces diversity. Our employees range in age and gender and come from many different cultures, traditions and lifestyles. IPL benefits from this variety of perspectives and ideas, experience and capabilities, all of which lead to a greater opportunity for innovation and a better workplace.

DIVERSITY

Diversity at IPL is led by the Executive Team, championed by our MD & CEO, and supported by the Company's Human Resources function. Our Board of Directors maintains oversight of the [Diversity Policy](#) and the implementation of the Diversity Strategy.

WHISTLE BLOWER PROTECTION

Our [Whistleblower Protection Policy](#) ensures that all staff can confidentially report improper, unethical or illegal conduct and raise concerns regarding actual or suspected contraventions of ethical or legal standards, without fear of victimisation, reprisal or harassment. To better facilitate the ability for staff to raise concerns in a confidential and efficient manner, the Whistleblower process was standardised globally in 2015. "The Network" is an externally managed, worldwide service that is multi-lingual, confidential and designed to efficiently facilitate the resolution of business conduct queries and/or issues that staff feel they are unable to raise and resolve locally. "The Network" is able to take calls in all our major operating languages, being English, French, Spanish, Chinese, Turkish and Bahasa and provides our staff with multiple lines of communication and the opportunity to provide further information, or respond to requests for further information, whilst remaining anonymous.

Managing Climate Change

◆ Material issue

Sustainability Report 2017

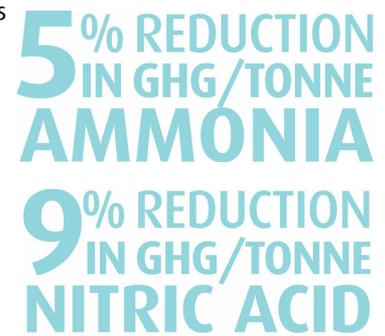
- > About this Report
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As discussed in the [Environment](#) section, the manufacture of ammonia and ammonia-derived products is energy-intensive, requiring natural gas as both a raw material and an energy source. The intensity of energy use and carbon emissions associated with our two main manufacturing processes is shown in the life cycle assessments for [ammonia](#) and [ammonium](#) nitrate. In Australia, IPL is a Large Emitter of greenhouse gases (GHG), as defined by the Australian National Greenhouse and Energy Reporting System (NGERS). In 2017, we reduced our GHG intensity per tonne of ammonia by 5% and per tonne of nitric acid by 9% against 2015 intensities. Our GHG reduction targets and additional efforts to reduce our emissions are further discussed under [Energy and Greenhouse Gases](#).

Large volumes of high quality freshwater are also required for cooling towers during the manufacture of ammonia. In addition to IPL’s comprehensive annual risk management process, the WBCSD Global Water Tool is completed each year for long term projections and reviewed by the Chief Risk Officer. This analysis is used each year to identify sites at which water is a material issue. Water supplies and water management strategies at sites identified by the Water Tool are discussed under [Water](#).



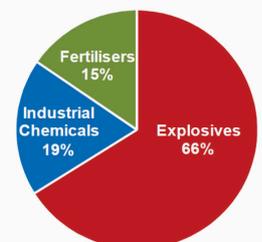
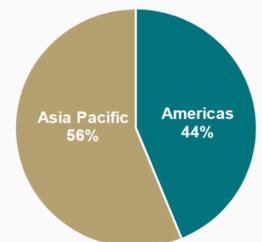
Climate Change Governance

As discussed under [How We Operate](#), the Company’s highest governing body, the Board of Directors, is responsible for charting the direction, policies, strategies and financial objectives of the Company. The Board operates in accordance with the principles set out in its [Board Charter](#). Day-to-day management of Company affairs and the implementation of the corporate strategy and policy initiatives are formally delegated to the Managing Director & CEO, and his/her direct reports form the Executive Team. During 2017, climate change issues, including those relating to financial risks and opportunities, were managed by three positions which report to the Chief Financial Officer, specifically, the Corporate Sustainability Manager, the Group Vice President, Investor Relations & Corporate Development and the Chief Risk Officer. Each of these positions also reports to the Board either directly, or through committees of the Board, such as the HSEC Committee and the Audit and Risk Management Committee.

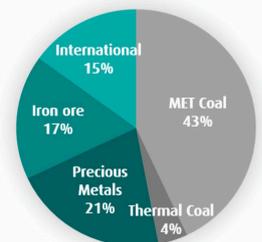
Climate Change Risks and Opportunities

As previously noted, IPL’s main manufacturing process currently relies on sustainable access to natural gas and water, and is GHG emissions intensive. In addition, our farming and mining customers, and therefore our markets, can be impacted by extreme weather events such as droughts, floods, hurricanes and tropical cyclones, as can our own manufacturing facilities (see [Case Study: Preparing WALA for future extreme weather events](#)). For these reasons, the risks associated with emissions, access to natural gas and water, and 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 remaining a key management strategy. Risks are reported in our [Annual Report](#) under ‘Principal Risks’ where they have been identified as such. In addition to this comprehensive risk assessment process, the longer term physical and transitional risks and opportunities associated with climate change were initially assessed in 2010 by an executive cross functional committee established for this specific purpose as part of IPL’s Sustainability Strategy, which was formed and approved by the Board in that year. Transitional risks identified at that time include, but are not limited to, compliance, regulatory and legal risk, reputational risk, and changing market sentiment impacting on our markets. The opportunities identified are associated with the development of new products, including our [enhanced efficiency fertilisers](#) and [energy efficient explosives technologies](#). These risks and opportunities have been monitored, reviewed and reported on annually in our [CDP reports](#).

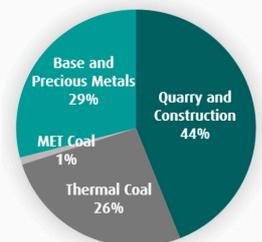
2017 EBIT Contribution*



Explosives Revenue Asia Pacific



Explosives Revenue Americas



*Excludes corporate elimination

With the release of the G20 Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) report, IPL recognised the need to review its processes in assessing and managing climate change related financial risks and opportunities, and in formulating the related disclosures which inform investors. In 2017, we engaged a specialist third party to conduct a high-level assessment of our climate-related financial risks and opportunities as well as an assessment of our current disclosures against the recommendations of the TCFD. This assessment will be completed in early 2018 and will inform a review of our climate change management strategy going forward.

Case Study: Preparing WALA for future extreme weather events

IPL assumed operational management of the newly constructed 800,000 metric tonne per annum Waggaman, Louisiana ammonia plant on 19 October 2016. The plant uses the industry's leading technology and is among the most efficient plants of its kind in the world, employing gas purifier technology and recapturing steam for reuse. The plant is also fitted with Selective Catalytic Reduction technology to reduce emissions of NO_x, and a portion of the CO₂ emissions generated during manufacturing are captured and used by a neighbouring plant to make melamine. Cooling water for the plant is sourced sustainably from the Mississippi River, and all wastewater and stormwater streams are treated onsite to meet strict water quality limits. Cooling water is returned as clean water to the river.

Due to its location in a hurricane zone, the 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 which include the relevant standards for wind load, occupancy categories, basic wind speed and exposure.

The design was signed off by a Louisiana based certified Professional Engineer with experience in these design standards for the region, where the impacts of future hurricanes must be considered. The required permits also included ensuring that the plant was built at a height above Louisiana's expected future inundation levels.



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

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

If the expected hurricane is of a high intensity, the plant may be required to shut down. This decision has Zero Harm as the primary goal, and is made in consultation with Cornerstone Chemical, St. Charles and Jefferson Parish Emergency Operations Centers, and with the support of IPL senior management. When this decision is made, a process is followed to shut down the plant in a controlled manner, with steps to cool and purge the system of hydrocarbons, block major reactors in under nitrogen purge and install additional securing of the cooling tower fans to prevent wind damage. Staff remaining on site are required to be housed in the control building which is rated for hurricane-strength winds and was built at an elevation where risk of flooding is negligible. The procedure also calls for the storage of adequate supplies of food and water for the expected duration of the event and the release of staff early to make personal arrangements then return to site 16 hours in advance of the event to make final preparations and begin monitoring. The procedure references emergency evacuation routes which limit direction of travel on the major highways in the New Orleans metropolitan area. Additional safety buddies are required when performing work in the plant and employees are to remain inside when winds rise above 60 miles per hour.

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

The facility has experienced one Category 2 hurricane since commissioning. We are pleased to be able to report that WALA came through Hurricane Nate with zero days of production losses and less than \$100,000 in total costs.

About The Data

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Scope

This Report covers subsidiaries of Incitec Pivot Limited ACN 42 004 080 264. The Company is a public company, trading on the Australian Securities Exchange as IPL.

In accordance with Global Reporting Initiative (GRI) 'G4' Sustainability Reporting Guidelines, our reporting covers all entities that generate significant sustainability impacts (actual and potential) and over which we exercise control or significant influence with regard to financial and operating policies and practices.

The financial year ending 30 September 2017 is indicated as '2017' in our reporting.

The statistics in our reporting are for global sites wholly owned by IPL during 2017. Joint ventures are not covered in our reporting, unless indicated, nor are the activities of suppliers, customers or outsourced operations.

The Company participates in many joint ventures with varying levels of ownership interest. A list is provided on page 67 of our [2017 Annual Report](#).

All financial figures in the Report are in Australian dollars, unless otherwise indicated.

Data measurement and calculations

Financial data: Financial figures are derived from our audited accounts, which are prepared according to the International Financial Reporting Standards (IFRS).

Greenhouse Gas Emissions data: Scope 1 and 2 greenhouse gas emissions are calculated based on the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition).

Australian Scope 1 and 2 GHG emissions:

- National Greenhouse and Energy Reporting (Measurement) Determination 2008
- National Greenhouse Accounts (NGA) Factors (2016).

Americas Scope 1 and 2 GHG emissions:

- US Electricity: eGRID2012 (2015 Version) Year 2012 GHG Annual Output Emission Rates
- US Fuels: IPCC, Guidelines for National Greenhouse Gas Inventories (2006)
- Canada Fuels: Default CO2 Emission Factors: Environment Canada, National Inventory Report,

1990–2007: Greenhouse Gas Sources and Sinks in Canada (2009), Annex 12: Emission Factors, Table A12-5 (1998– 2007 data); Default Heat Content: Statistics Canada, Report on Energy Supply-demand in Canada, 2007 (2009)

- Electricity: Canadian Energy Issues: <http://canadianenergyissues.com/ontario-power-stats/>
- Mexico Electricity: Ecometrica Technical Paper: Electricity-specific emission factors for grid electricity (2011) Brander, Sood, Wylie, Haughton, and Lovell at <https://ecometrica.com/assets/Electricity-specific-emission-factors-for-grid-electricity.pdf>.

European Scope 1 and 2 GHG emissions:

- 2011 Guidelines to DEFRA/DECC's GHG Conversion Factors for Company Reporting – Produced by AEA for the Department of Energy and Climate Change (DECC) and the Department for Environment, Food and Rural Affairs (DEFRA) in the UK. Version: 1.2

Changes during the period

On 9 August 2017, the Company announced the appointment of Jeanne Johns as Managing Director & CEO. Ms Johns commenced in the role on 15 November 2017. There were no other changes to the organisational structure or size of the Company during the reporting period.

Restatements

The 2015 and 2016 TRIFRs have been restated due to the finalisation of classification of incidents pending at the time of previous publication dates.

Assurance and data integrity

We aim to ensure that the information we publish is accurate, complete and material and therefore contributes to building trust and credibility with stakeholders. To achieve this we have improved our internal processes for verifying non-financial management information and for reviewing and approving the content of our reporting.

Deloitte has provided a [limited assurance statement](#) on our Australian greenhouse gas emissions, energy consumption and production figures for the period 1 July 2016 to 30 June 2017. (Deloitte is an independent auditor who also audit the Company's financial statements. See pages 43 and 83-87 of the [2017 IPL Annual Report](#).)

IPL is not currently seeking an extension in the scope of assurance for this annual online Sustainability Report.

GRI Index

Legend:

- ◆ Material aspect
- ❖ Disclosure required for GRI 'Core' reporting

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General Standard Disclosures

GSD	Response or Link	External Assurance
❖ Strategy and Analysis		
G4-1	Statement from the most senior decision-maker of the organisation	
❖ Organisational Profile		
G4-3	Name of the organisation: see About Incitec Pivot .	
G4-4	Primary brands, products and services: see About Incitec Pivot .	
G4-5	Incitec Pivot Limited's head office is located at Level 8, 28 Freshwater Place, Southbank, Victoria, Australia. See also the Contact Us section of our website.	
G4-6	Where we operate: see About Incitec Pivot .	
G4-7	Incitec Pivot is an Australian Securities Exchange (ASX) listed company. Shareholder information is available in our 2017 Annual Report , page 88.	
G4-8	Our markets: see About Incitec Pivot .	
G4-9	Our number of employees, net revenue, tonnes of product supplied and economic value distributed and retained is reported in our 2017 Sustainability Scorecard . Other data required for this disclosure is reported in the 2017 IPL Annual Report .	
G4-10	For employees by location, contract type, employment status and gender, see Managing Our Workforce . IPL's data systems do not currently allow for the reporting and breakdown of all supervised workers or accurate breakdowns of contractors by contractor types. A substantial proportion of IPL's work is not performed by workers who are legally recognised as self employed, or by individuals other than employees or supervised workers, including employees and supervised workers of contractors.	
G4-11	For percentage of total employees covered by collective bargaining agreements see the table under Engaging Our Employees . IPL's data systems do not currently allow for the reporting and breakdown of contractors who are covered by collective bargaining agreements.	
G4-12	For our supply chain profile, see Raw Materials and Supply Chain . For risk management strategies associated with ◆ gas supply , see page 19 of the 2017 IPL Annual Report .	
G4-13	Any changes during the reporting period to our organisation or our supply chain are reported under About the Data .	
G4-14	For an explanation of how IPL addresses the Precautionary Principle , see Our Approach .	
G4-15	IPL has not officially endorsed any externally developed economic, environmental or social charters, principles or other initiatives.	
G4-16	For IPL membership of Associations, see Memberships of Associations .	
❖ Identified Material Aspects and Boundaries		
G4-17	For entities included in IPL's financial reporting, see the 2017 IPL Annual Report , page 67. All subsidiaries have been included in the Annual Report as they are controlled by the group.	
G4-18	For report content selection process and report boundaries, see Our Approach and About This Report respectively. For aspect boundaries, see the Materiality and GRI Aspect table under Our Approach .	
G4-19	Our material aspects are listed under Our Approach and are indicated by the ◆ symbol throughout this report.	
G4-20	For boundaries and mapping of our material issues against GRI aspects, see Our Approach .	
G4-21	For boundaries and mapping of our material issues outside the organisation against GRI aspects, see Our Approach .	
G4-22	For restatements of information since the last reporting period see About the Data .	
G4-23	There have been no significant changes since the previous reporting period in the Scope and Aspect boundaries.	

This report is published as an interactive online report. Visit the website to access online features at www.incitecpivot.com.au/sustainability

❖ Stakeholder Engagement		
❖ G4-24	For a list of stakeholder groups engaged by the organisation, see Our Approach .	
❖ G4-25	For the basis for stakeholder identification and selection, see Our Approach .	
❖ G4-26	For our approach to stakeholder engagement, see Our Approach .	
❖ G4-27	For key topics and concerns raised by our stakeholders, see Our Approach .	
❖ Report Profile		
G4-28	For details on the reporting period, see About This Report . The term '2017' is used throughout this report to refer to the reporting period, which is the IPL financial year, ending 30 September 2017.	
G4-29	For the date of our most recent previous report, see About This Report .	
G4-30	Our reporting cycle is annual. See About This Report .	
G4-31	For the contact point for questions regarding this report, see About This Report .	
G4-32	The 'in accordance' option for this report is 'Core'. The GRI Content Index is this table. External assurance is noted in column three of this table and is detailed in About the Data .	
G4-33	For external assurance policy and current practice, see 'Assurance and data integrity' under About the Data .	
❖ Governance		
G4-34	For the governance structure of the organisation, including committees of the highest governance body and committees responsible for decision-making on economic, environmental and social impacts, see the Directors' Report in the IPL 2017 Annual Report , the IPL 2017 Corporate Governance Statement and How We Operate .	
◆ Ethics and Integrity		
G4-56	For our values, principles, standards and norms of behaviour such as codes of conduct and codes of ethics, see How We Operate .	
Specific Standard Disclosures		
◆ Economic		
G4-DMA	For Generic Disclosures on Management Approach, see the IPL 2017 Annual Report .	
G4-EC1	For direct economic value generated and distributed see our Scorecard . For external assurance statement see the IPL 2017 Annual Report , pages 83-87.	Yes
G4-EC2	For financial implications and other risks and opportunities for the organisation's activities due to climate change, see Managing Climate Change , the IPL 2017 Annual Report page 21, and the IPL 2017 CDP Report .	
◆ Environmental		
◆ Energy		
G4-DMA	For Generic Disclosures on our management approach to energy see Environment and Energy and Greenhouse Gases .	
G4-EN3	For energy consumption within the organisation see Energy and Greenhouse Gases .	
◆ Water (some sites)		
G4-DMA	For Generic Disclosures on our management approach to resources use see Environment and Water .	
G4-EN8	For total water withdrawal by source, see Water .	
G4-EN10	For percentage and total volume of water recycled and reused, see Water .	
◆ Emissions		
G4-DMA	For Generic disclosures on our management approach to emissions, see Environment .	
G4-EN15	For direct greenhouse gas (GHG) emissions (Scope 1), see Energy and Greenhouse Gases under Environment . See our external assurance statement .	Yes
G4-EN16	For energy indirect greenhouse gas (GHG) emissions (Scope 2), see Energy and Greenhouse Gases under Environment . See our external assurance statement .	Yes
G4-EN21	Disclosure is not required for 'core' reporting, however information relating to our NOx and SOx emissions is reported at Reducing NOx and SOx .	

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Effluents and Waste

- G4-DMA Disclosure is not required for 'core' reporting, however information on our management approach to waste and effluents is available in [Environment](#).
- G4-EN22 Disclosure is not required for 'core' reporting, however total water discharge by destination is reported under [Water](#).
- G4-EN23 Disclosure is not required for 'core' reporting, however total weight of waste by type and disposal method is reported under [Waste](#).

◆ Products and Services

- G4-DMA For Generic Disclosures on our management approach to mitigating the environmental impacts of our products and services, see the [Products and Services](#) section.
- G4-EN27 For the extent of impact mitigation of environmental impacts of products and services, see Products and Services section, particularly [Research and Development](#), [Best Practice in Fertiliser Use](#), [Minimising the Impacts of Blasting](#) and [Support and Education of Customers](#). It is not possible to quantitatively report the total extent to which the environmental impacts of our products and services have been mitigated by these strategies during this reporting period. We are investigating possible methods to reliably estimate these figures for future reporting periods.

◆ Environmental Compliance

- G4-DMA For Generic Disclosures on our management approach to environmental compliance, see [Environment](#) and also [Environmental Compliance](#).
- G4-EN29 For the monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations, see the [IPL 2017 Annual Report](#), page 4 and [Environmental Compliance](#).

Supplier Environmental Assessment

- G4-DMA Disclosure is not required for 'core' reporting, however information on our management approach to Supplier Environmental Assessment is available in [Raw Materials and Suppliers](#).
- G4-EN32 Disclosure is not required for 'core' reporting, however information relating to the percentage of new suppliers screened using environmental criteria is available in [Raw Materials and Suppliers](#).

SOCIAL: Labour Practices and Decent Work

◆ Occupational Health and Safety

- G4-DMA For Generic Disclosures on our management approach to Occupational Health and Safety, see [Workplace Health and Safety](#).
- G4-LA5 The percentage of total workforce represented in formal joint 'management-worker' health and safety committees that help monitor and advise on occupational health and safety programs is 100%. Monthly Zero Harm meetings are held at all sites and are attended by all employees. See 'Passionate Leadership' under [Workplace Health and Safety](#).
- G4-LA6 Disclosure is not required for 'core' reporting, however our TRIFR is reported by region, by gender, and by employee and contractor categories, under [Workplace Health and Safety](#).

◆ Training and Education

- G4-DMA For Generic Disclosures on our management approach to Training and Education, see the [Managing Our Workforce](#) section, including [Attracting and Developing Talent](#), [Engaging Our Employees](#) and [Learning and Development](#).
- G4-LA10 Disclosure is not required for 'core' reporting, however information relating to our programs for skills management and lifelong learning that support the continued employability of employees is available under [Engaging Our Employees](#) and [Learning and Development](#).
- G4-LA11 For the percentage of employees receiving regular performance and career development reviews by gender and by employee level see [Attracting and Developing Talent](#).

◆ Diversity and Equal Opportunity

- G4-DMA For Generic Disclosures on our management approach to Diversity and Equal Opportunity, see [Managing Our Workforce](#), including our [Diversity](#) and [Australian Indigenous Employment Program](#) sections, and our [2017 Corporate Governance Statement](#), pages 2-4.
- G4-LA12 For the composition of governance bodies and breakdown of employees per employee category according to gender and age group, see [Diversity](#). IPL does not currently ask employees who identify with particular minority groups within their countries to identify themselves. Due to our commitment to Indigenous employment in Australia, Dyno Nobel Asia Pacific employees may choose to identify themselves as Australian Indigenous or Torres Strait Islander persons.

Equal Remuneration for Women and Men

- G4-DMA Disclosure is not required for 'core' reporting, however information on our management approach to equal remuneration for women and men is included under [Diversity](#) and in the [IPL 2017 Corporate Governance Statement](#) on page 4 under 'Respecting Our Differences'.

SOCIAL: Human Rights**Supplier Human Rights Assessment**

- G4-DMA Disclosure is not required for 'core' reporting, however information on our management approach to supplier Human Rights assessment is available under [Suppliers and Raw Materials](#).
- G4-HR10 Disclosure is not required for 'core' reporting, however, information relating to the percentage of new suppliers that were screened using human rights criteria is available under [Suppliers and Raw Materials](#).

SOCIAL: Society**◆ Local Communities**

- G4-DMA For Generic Disclosures on our management approach to local communities, see [Community](#).
- G4-S02 For operations with significant actual and potential negative impacts on local communities, see [Community Safety](#).
- G4-S05 There were no confirmed incidents in which employees were dismissed or disciplined for corruption in 2017. There were no fines, penalties or settlements in relation to corruption in 2017. This disclosure is not required for 'core' reporting.
- G4-S06 The total monetary value of financial and in-kind political contributions made directly and indirectly by IPL in 2017 is zero. The IPL Political Engagement and Donations Policy which was amended by the Board on 17 December 2015, prohibits the Group from making any political donations, whether in cash or in kind, to any political party or organisation, party official; individual politicians; to any political candidate for public office; or any third party organisation that may make political donations (collectively referred to in the policy as 'political persons') in any country. This disclosure is not required for 'core' reporting.

SOCIAL: Product Responsibility**Product and Service Labelling**

- G4-DMA Disclosure is not required for 'core' reporting, however information on our management approach to product labelling is available under [Customer Health and Safety](#) in the Products and Services section and information relating to our stewardship of our product packaging is available under [Raw Materials and Suppliers](#).
- G4-PR3 Disclosure is not required for 'core' reporting, however information relating to the type of product and service information required by the organization's procedures for product and service information and labelling, and percentage of significant product and service categories subject to such information requirements is available under [Customer Health and Safety](#) in the Products and Services section.

Memberships of Associations

Sustainability Report 2017

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Incitec Pivot Limited (IPL) is a member of various industry Associations. Those which are considered strategic include:

Industry Association	Description
Fertilizer Australia	The industry association representing manufacturers, importers and distributors of fertiliser in Australia, and associated service industries. Fertiliser Australia members supply over 95% of the fertilisers used in Australia. IPL holds a board position.
International Fertilizer Industry Association	A not-for-profit organisation that represents the global fertiliser industry. IFA member companies represent all activities related to the production, trade, transport and distribution of the nutrients required to help farmers worldwide address the growing need for food, feed, fibre and bio energy. IPL holds a board position.
The Fertilizer Institute	The trade association representing the public policy, communication and statistical needs of producers, manufacturers, retailers and transporters of fertilizer in the US. Issues of interest include security, international trade, energy, transportation, the environment, worker health and safety, farm bill and conservation programs to promote the use of enhanced efficiency fertilizer. Dyno Nobel Americas is a member.
Australian Explosives Industry and Safety Group (AEISG)	Aims to continuously improve the level of safety in the manufacture, transport, storage, handling and use of precursors and explosives in commercial blasting throughout Australia. Dyno Nobel is a member.
Minerals Council of Australia	Represents Australia's exploration, mining, and minerals processing industry, nationally and internationally, in its contribution to sustainable development and society. MCA member companies produce more than 85% of Australia's annual mineral output. Dyno Nobel is a member.
National Mining Association	The voice of the American mining industry in Washington, D.C., NMA is the only national trade organisation that represents the interests of mining before Congress, the Administration, federal agencies, the judiciary and the media. Dyno Nobel is a member.
Queensland Resources Council (QRC)	An independent not-for-profit peak industry association representing the commercial developers of Queensland's mineral and energy resources. The QRC works to secure an environment conducive to the long-term sustainability of the minerals and energy sectors in Queensland, Australia.
Institute of Makers of Explosives	An association concerned with the safety and security of the commercial explosives industry in the United States and Canada. Dyno Nobel is a member.
International Society of Explosives Engineers	A professional society dedicated to promoting the safety, security and controlled use of explosives. Dyno Nobel is a member.
Global Explosives Safety Group (SAFEX)	A non-profit organisation of manufacturers of explosives and pyrotechnics which aims to protect people and property against dangers and damage by the sharing of experience in the explosives industry. Dyno Nobel is a member.
Canadian Explosives Industry Association (CEAEC)	An industry concerned with the promotion of high standards in the manufacturing, use, transportation and handling of explosives in the interest of worker and public safety. Dyno Nobel is a member.
Ammonium Nitrate Nitric Acid Producers Group (ANNA)	An informal international organisation of manufacturers of ammonium nitrate and nitric acid with the goal of promoting networking within the industry through sharing knowledge, technology and experience. Dyno Nobel is a member.
The National Sand, Stone and Gravel Association	An association for the aggregates industry in the US, concerned with supporting policies and regulation that promote the safe and environmentally responsible use of aggregates. Dyno Nobel is a member.
Business Council of Australia	Provides a forum for Australian business leaders to contribute directly to public policy debates. Members determine the work program and policy positions of the Council through their participation in policy committees, special-issue task forces and the BCA Board.
Manufacturing Australia (MA)	A CEO-led coalition of some of Australia's largest manufacturers that work with governments, businesses and communities to promote Australia's manufacturing sector to make a significant and sustainable contribution to the nation's economy.
Australian Industry Greenhouse Network	A network of industry associations and individual businesses which contribute to the climate change policy debate and see value in joint industry action on climate change in order to promote sustainable industry development. The network is committed to industry collaboration on equitable global action to reduce greenhouse gas emissions.

This report is published as an interactive online report. Visit the website to access online features at www.incitecpivot.com.au/sustainability

Glossary

Sustainability Report 2017

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- > Our Focus Areas
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BEx	Business Excellence (BEx) is the IPL Business System for continuous and focused improvement. BEx is strongly aligned to IPL's Corporate Values and has lean thinking at its core. Through BEx there is continuous review, measurement of business performance and improvement of the processes and systems that support sustainable practices
CO2e	Carbon dioxide equivalent: Universal unit of measurement to indicate the global warming potential (GWP) of each of the six greenhouse gases, expressed in terms of the GWP of one unit of CO2. Used to evaluate releasing (or avoiding releasing) different greenhouse gases against a common basis
EIFR	Environmental Incident Frequency Rate: number of incidents per 1,000,000 hours worked which: <ul style="list-style-type: none"> - exceed licence conditions and create a material or off-site environmental impact with a consequence of Category 3 and above; - have resulted in a regulator (e.g. EPA) fine of any value; or - are a community complaint that stops production.
GRI	The Global Reporting Initiative (GRI) is a leading organization which promotes the use of sustainability reporting as a way for organisations to become more sustainable and contribute to sustainable development. GRI pioneered and developed the comprehensive Sustainability Reporting Framework that is most widely used around the world. To see the GRI indicators covered by our sustainability webpages and publications, click here
Group	The IPL group, collectively comprising IPL and its subsidiaries
Materiality	In the context of the GRI Reporting Framework, 'material' topics for a reporting organization are those topics that have a direct or indirect impact on an organisation's ability to create, preserve or erode economic, environmental and social value for itself, its stakeholders and society at large
Near miss	An unplanned event that did not result in injury, illness, or damage – but had the potential to do so. The aim of the investigation of each 'near miss' event is to identify and mitigate root causes, providing a focus for improvement
NOx	A generic term for the mono-nitrogen oxides NO and NO2 (nitric oxide and nitrogen dioxide)
N2O	Nitrous oxide (an oxide of nitrogen), listed as one of six greenhouse gases covered by the Kyoto Protocol and the Greenhouse Gas Protocol
Plant	The equipment used to manufacture a specific product e.g. ammonia. There may be several plants on a single IPL site
Prill	Small aggregates of solid ammonium nitrate formed by allowing drops of liquid AN to congeal or freeze in mid-air after being dripped from the top of a tall prilling tower
Scope 1 emissions	Direct GHG emissions occurring from sources that are owned or controlled by the Group, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles etc., emissions from chemical production in owned or controlled process equipment
Scope 2 emissions	Scope 2 emissions are GHG emissions which arise from the generation of purchased electricity consumed by the Group. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the Group. Scope 2 emissions physically occur at the facility where this electricity is generated
Scope 3 emissions	Scope 3 is a GHG emissions reporting category that allows for the treatment of all indirect emissions (other than Scope 1 and 2 emissions). Scope 3 emissions are a consequence of the activities of the Group, but occur from sources not owned or controlled by the Group.
Site	A single geographic location where IPL operations take place
Supply Chain	Our supply chain is a sub-set of our value chain, referring to the companies who supply the inputs to our operations, such as raw materials for manufacturing, service providers and providers of other inputs such as electricity and water
TRIFR	Total Recordable Injury Frequency Rate: number of recordable injuries per 200,000 hours worked; includes contractors unless otherwise indicated
Value Chain	Our value chain includes our suppliers (and potentially their suppliers), our operations, our distribution channels, and our customers, who are the end users of our products. Our supply chain (described above) is a subset of this



Workplace Health and Safety

- ◆ Our Safety Performance
- > Health and Wellbeing

Print PDF



[Link: What is BEx?](#)

Our approach to workplace health and safety is implemented via our HSE Strategy which focusses on four key areas referred to as the '4Ps': [Passionate Leadership](#), [People](#), [Procedures](#) and [Plant](#). We believe that safety performance is a result of investment in each of these four areas. IPL has in place a fully integrated HSEC Management System which provides the foundation for effective identification and management of health, safety and environmental risks. Based on our HSEC Policy, this foundation is complemented by the corporate commitment to continuous improvement through [BEx](#).



In 2012 IPL adopted a five-year Global HSE Strategy to achieve world-class safety performance and an all worker TRIFR of <1 by 2016. In 2017 IPL achieved a TRIFR of 0.90, a 35 percent decline from 2012.

Our employees, with all the skills, knowledge and expertise they bring and their capacity to see and manage risks, are a critical factor in achieving Zero Harm. We are working to further develop a culture of passionate leadership, effective procedures, well maintained plants and equipment, and, most of all, engagement from our people.



Passionate Leadership

Leaders take responsibility for the safety of their people and create the safety culture in which Zero Harm is achievable. Passionate Leadership is the most important of the 4Ps. We have a governance structure in place to ensure a safety focus across the organisation. The Board's Health, Safety, Environment and Community (HSEC) Committee assists the Board in its oversight of health, safety and environment matters arising out of our activities as they may affect employees, contractors, and the local communities in which we operate.

The Vice President of Health, Safety and Environment is accountable for advising the Managing Director & CEO and Executive Team on best practice strategies for health, safety and environmental improvement. The role supports the organisation in developing and delivering the health and safety strategy and works with a Group-wide network of safety professionals and operational leaders to achieve our goals and support line management in improving our performance.

Regional safety managers provide advice and support to line management, to enable them to make the most effective use of resources, by sharing best practices, and standardising, streamlining and coordinating health and safety activities across the Group.

The Zero Harm Council (ZHC), chaired by our Managing Director & CEO and consisting of all members of the Executive Team, and the Vice President Health, Safety & Environment, is accountable for overseeing the Group's execution of the Zero Harm Strategy and reviewing health, safety and environmental performance. A number of Zero Harm Council sub-committees were established specifically to lead the implementation of specific areas of focus identified in our Zero Harm Strategy post 2016 including:

- Risk Management;
- Critical Control Management. Critical Controls are those which relate directly to fatal risks;
- Management of Change; and
- Permit to Work and Job Step Analysis processes.

On a day-to-day operational level, our leaders are expected to consistently demonstrate and communicate high standards of behaviour and operating discipline and promotion of our Zero Harm Value. They must take proactive action to continuously improve our safety performance and use both leading and lagging indicators to monitor that performance.



[Link:](#)
[What is BEx?](#)



People

Personal responsibility at all levels is integral to promoting continuous health and safety improvement across the Group. We are embedding this culture through [BEx](#) and specific training, and supplementing this with the use of techniques such as safety observations, and incident and near miss investigations to share learnings.

We recognise that personal attitude plays a major role in workplace safety. We use two best practice tools globally: Take5! and Safe Act Observation (SAO).

Take5! and SAO are behavioural safety tools that form part of the Group's overall risk management processes. Both tools require employees to take responsibility for their own safety, as well as that of their colleagues. Take5! is the process for conducting a personal rapid hazard assessment before starting work. It ensures that employees are aware of any risks and have put controls in place to make it safe to proceed. This tool is used in conjunction with Job Step Analyses (JSAs) and existing risk-assessment processes. SAO is a step-by-step process for evaluating safe work behaviours, whereby team members are observed performing routine tasks in their normal work environment. It is collaborative, and provides positive reinforcement and feedback to ensure that all employees work as safely and efficiently as possible.

Our global behavioural safety training program called 'Safety Partners' continued to be rolled out this year. Safety Partners is an innovative program that incorporates a unique blend of IPL's Leadership, [BEx](#) and Sentic's Zero Incident Process (ZIP) training content. The initial program is based on the concept of how people think, which invariably impacts on what they do. By giving attention to individual attitudes and behaviours we are able to influence the results we achieve on and off the job. Ultimately, this approach will help to influence our attitude towards safety, understanding what is truly important to us and creating a personal safety action plan.

Employees also receive safety training as part of their induction process, which is compulsory for all new employees (including contractors whose duration of engagement exceeds 40 hours). The first day of this process includes the provision of site safety information as well as discussion and sign off on our Health, Safety, Environment and Community Charter. Our 'safety non-negotiables' as described in the [Rules to Live By](#) are clearly communicated at induction and reinforced by managers. We also use the '5S' approach to workplace efficiency and safety hazard removal. 5S is one of the business improvement training programs associated with BEx.



Procedures

Our HSEC policy and management system includes 18 global standards and is a key tool underpinning safety performance at all levels and across all functions.

These standards are a key component of our Safety Management System and are aligned to ISO14001, OHSAS 18001, ISO 31000 and AS 4801 international standards, as well as American Chemistry Council Responsible Care Management System and Centre for Chemical Process Safety risk based process safety standards.

To track and monitor our HSE performance, we use a global HSE reporting system called Cintellate. Incident reporting and analysis is key to our ability to continuously improve our safety practices. By recording and investigating incidents and 'near misses' to establish the root causes – be they injury, environmental, process safety or quality related – we gain valuable insights into the safety hazards faced by our people and communicate these learnings across all of our sites. A risk register template is included in Cintellate, which provides a uniform approach to risk ranking, management and reporting across the business. Data extracted from Cintellate is reported to the Board and Executive Team each month.

84%
SITES RECORDABLE
**INJURY
FREE**

6%
REDUCTION
IN LOST TIME
**INJURY
FREQUENCY RATE**

[Link:](#)
[What is BEx?](#)



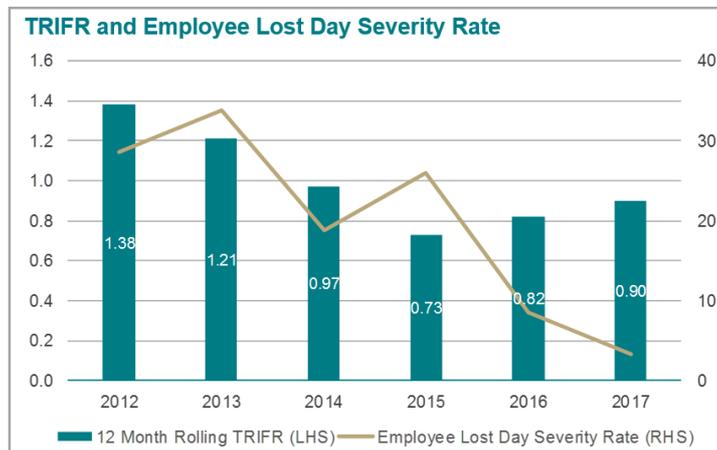
Plant

Given the nature of the risks involved, ensuring the safety and integrity of our major chemical manufacturing facilities is paramount. This means making sure our facilities are well designed, safely operated, properly inspected and maintained, and meet regulatory requirements. We are continuing to strengthen our governance of process safety. Our audit framework and established metrics ensure continuous monitoring and assessment of performance. The total number of process safety incidents has decreased by 15 percent since 2015 and there were no recordable injuries from PSM-related events during 2017.

15%
REDUCTION
IN PROCESS
SAFETY INCIDENTS
SINCE 2015

Our 2017 Performance

- Achievement of a global TRIFR of 0.90, with 84 percent of sites recordable injury free;
- 6 percent reduction in Lost Time Injury Frequency Rate since 2016;
- 62 percent reduction in Employee Lost Day Severity Rate since 2016;
- 15 percent reduction in process safety incidents since 2015;
- Receipt of the [Burlington Northern Santa Fe's 20th Annual Product Stewardship Award](#) for the safe transportation of hazardous materials by rail;
- Development and roll out of the Tier 1 employee driven and narrated 4Ps Zero Harm video to communicate the Zero Harm strategic themes and emphasise the Safety Partner concepts;
- Confirmation, via employee feedback through an Appreciative Enquiry across IPL's Global Manufacturing operations, that the Zero Harm strategy is understood and that the program is meaningful and is creating a safer workplace and culture;
- Design completion of the global standardised management of change process and database tool;
- Completion of the implementation of global standardised Job Step Analysis and Permit to Work processes across Asia Pacific and all Global Manufacturing sites;
- Commencement of the use of standardised Critical Control Verifications. Critical controls are those which relate directly to fatal risks;
- Redesign of the [IPL 8 Week Health Challenge](#), with a planned extension to all employees in our Australian & Asia Pacific business in February 2018.
- Development of the [IPL Remote and Onsite Workers Pack](#) in conjunction with SeventeenHundred to support our Fly In Fly Out (FIFO) and Drive In Drive Out (DIDO) workforce.
- Re-launch of the [IPL Work Life Hub](#) and [Employee Assistance Program](#) in Australia.



35%
REDUCTION
IN TRIFR
SINCE
2012

Key Challenges and Opportunities

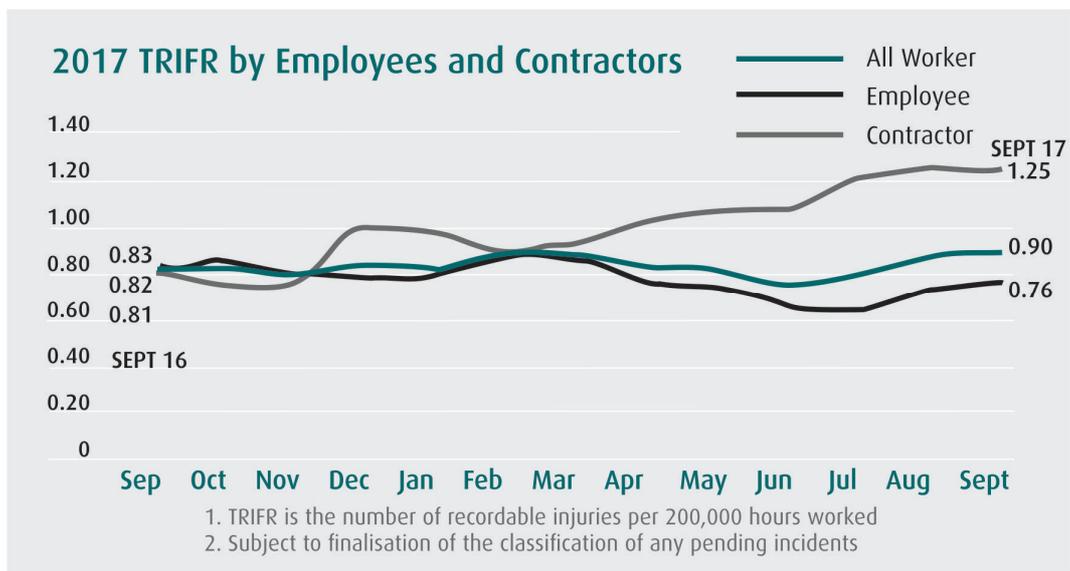
- Striving for Zero Harm in our risk inherent manufacturing and customer mining environments.
- Continuous improvement in all safety metrics.

Strategic Priorities for 2018

The following initiatives will be priorities in maintaining IPL's Zero Harm focus in 2018:

- Executive Team leadership and coaching of employees during site visits to review site risk registers and CCVs;

- Continued implementation of the CCV Management process;
- Implementation of the IPL Safety Partner Group Standard;
- Continued improvement of risk management across all parts of the business, including the quality of risk register content;
- Extension of the implementation of the standardised PTW and JSA processes to all North American sites;
- Implementation of the global standardised Management of Change process;
- Maintaining a TRIFR of less than 1; and
- Maintaining a continued reduction in injury severity rate and other metrics.



89% REDUCTION IN EMPLOYEE LOST DAY SEVERITY RATE SINCE 2012

TRIFR by region	2015	2016	2017
Australia	0.64	0.91	1.12
North and South America	1.12	0.63	0.94
Canada	0.00	0.61	1.69
Turkey	0.44	0.86	0.35
Indonesia	0.32	0.25	0.00
Papua New Guinea	0.00	0.00	0.00

Global TRIFR by Gender	2016	2017
Male	0.81	0.81
Female	0.34	0.89

Burlington Northern Santa Fe’s 20th Annual Safety Award

The Burlington Northern Santa Fe Railway (BNSF Railway) is one of the largest freight railroad networks in North America that links western and eastern United States, and serves as a key mode of transport for our Americas Operations. In May 2017, the safety performance of our St Helens, Oregon and Louisiana, Missouri Plant Operations Teams was recognised through the awarding of the Burlington Northern Santa Fe’s 20th Annual Product Stewardship Award to our Americas business. This award recognises the safe transportation of hazardous materials by rail. Companies are selected for the award for transporting a minimum of 500 loaded tank cars of hazardous materials during the previous year with zero non-accident releases during the entire transportation cycle and for successfully implementing the ethics of Product Stewardship under the American Chemistry Council’s Responsible Care® Initiative.



This award is a fantastic achievement for our Americas Business, and a perfect example of our people continually striving for Zero Harm and achieving outstanding business performance.

Workplace Health and Safety

Health and Wellbeing

Workplace Health and Safety

◆ Our Safety Performance

> Health and Wellbeing

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[Link:](#)
What is BEx?

IPL values people. This means that we care for the health and wellbeing of our employees and aim to create a balance between work and personal needs for everyone. Studies show that companies that manage wellness programs effectively profit from increased employee engagement and higher organisational performance.

The IPL Zero Harm Council has responsibility for health across the Group, and each business unit and site offers health and wellbeing programs appropriate for local needs and to suit local regulatory and cultural requirements.

From an organisational point of view, health and wellbeing initiatives can:

- reduce absenteeism
- improve overall work performance
- reduce workplace accidents and injuries
- improve staff morale
- assist IPL in being an 'employer of choice'
- develop a healthy balance between work and home activities for our employees
- provide a supportive and healthy work environment that promotes effective teamwork and fosters professional growth

In addition, we encourage our employees to maintain their health for personal benefits, such as a longer life, an improved quality of life, increased energy and happiness and reduced expenditure on medical providers and premiums.

All Australian and US employees have access to an Employee Assistance Program (EAP).

In Australia, the EAP was relaunched during 2017 through Converge International, providing up to five confidential specialist counselling sessions each year, available 24 hours per day. The EAP offers support for work and personal issues either face-to-face or over the telephone. Employees can also access the free Converge International portal online or directly on mobile devices through the new EAP Connect App. The portal offers tip sheets and handy hints on a range of lifestyle topics, including Ten Habits of Highly Effective Listening, Making Lifestyle Changes Stick, How Do I Know if I'm Not OK, Communication & Collaboration, and Creating a Positive Workplace (tips for managers and staff).

In the US, the EAP is available to employees and their immediate family members through SupportLinc, which offers up to eight face-to-face or over the phone counselling sessions, regardless of whether employees enrol in other Company benefit programs. Employees can log on to the SupportLinc website for access to thousands of helpful articles and tip sheets, including topics such as child care, elder care, education, legal and financial assistance, and more. SupportLinc is also available 24 hours a day, 365 days a year. The counselling offered through the IPL EAP can help with managing conflict, coping with change, stress, grief, career transitions, relationship issues, gambling, alcohol and substance abuse, parenting conflict, pain, trauma, anxiety, depression and many types of emotional difficulties.

Across our Australian sites, we promoted R U OK? Day on 13 September 2017, an initiative supported by the Australian Government to equip and encourage work mates to start a conversation whenever they notice that a colleague might need help to seek assistance. Employees were encouraged to take a five minute survey to assess their own levels of stress and mental health, and were offered tips on how to start conversations with colleagues who show the signs of stress described in the survey. In addition, the IPL EAP was also promoted to employees in conjunction with R U OK? Day.

**How to ask
R U OK?**
Learn here

Stress management information and/or training is instigated at a site level as needs are identified by the relevant site manager. This may take the form of site wide training, training for specific work groups, or referral for an individual needing assistance in this manner. Counselling or other support services are also available in response to specific events, e.g. a natural disaster or site incident.

Sleep and driver safety

During 2017, our Dyno Nobel Transportation (DNTI) and Distribution business in North America continued to operate a Driver Alertness Program for our current truck drivers and new hire drivers. The program aims to assist in reducing fatigue and help keep our drivers safe on the road. Drivers are screened for Obstructive Sleep Apnea (OSA) and tested if found to be at risk. Those who are diagnosed with OSA are assisted to access treatment to improve their sleep. As with all of our drivers, determination for fitness for driving is made by the Department of Transport doctor. In the case of OSA, doctors confirm CPAP treatment compliance and monitor progress before issuing drivers with a medical card to drive. In addition, DNTI established a Transportation Drivers' Council to promote weekly wellness activities and increase awareness of the importance of health and wellness. In Australia, 'fitness for driving' medical assessments are also conducted as part of the requirements for Dangerous Goods Drivers' licencing. The issue of fatigue in the workplace and importance of sleep for good mental and physical health continues to be a focus.

Health assessments and Wellness Program

Across our US and Australian operations, occupational health assessments are also offered to employees. For example, we currently offer our US based employees confidential Wellness Screenings on an annual basis. The screenings focus on the early identification of personal modifiable health risk factors. This provides each employee with a picture of their overall health status including blood pressure, cholesterol, glucose, and triglyceride levels, and the effects of smoking. Delivered by a third party professional health services provider, this screening information is provided confidentially to employees who are then assisted in partnering with their physician to take corrective action and improve health outcomes where required. Because the screening is conducted annually, a six month check-up is included to track progress and assist in improving their health. Employees in Australia who are exposed to noise, dust and other occupational exposures undergo relevant periodic medical assessments to monitor and ensure that their health is maintained.

In the US, the Wellness Program inspired great results in 2017:

- 67.9% of participants improved blood pressure levels,
- 70.5% improved LDL Cholesterol levels,
- 62.5% improved blood Glucose levels, and
- 64.3% improved Triglycerides.

The IPL 8 Week Challenge

During 2017, the IPL 8 Week Challenge was redesigned for 2018 and extended to all employees globally. The Challenge will begin on February 5th and is focused on health and wellbeing, with employees earning points for their teams by achieving targets related to being active every day, eating fruit and vegetables, drinking plenty of water and achieving an overall team goal focused on total waist centimetres lost and total weight lost. The Challenge is being promoted to employees by email and on the internal intranet through a weekly theme with bonus points available through engagement in weekly themed activities.



Some of our sites in Australia, such as Phosphate Hill and Moranbah, have access to a range of health and fitness support facilities and services such as a gym, other sport and recreational facilities and lifestyle, nutrition, health and fitness professional support and advice. Several other sites offer a subsidy towards gym membership or other fitness programs.

Giving up smoking

In the US, a tobacco cessation program is also offered in association with the Wellness Screenings program and is conducted by the same third party health services provider. We incentivise this program by reimbursing the employee's costs for any approved tobacco cessation products once an employee has successfully completed the program and stopped smoking. During 2017, 9.5% of repeat participants quit using tobacco through this program.

Reducing sprains, strains and manual handling injuries

During 2017 we continued to focus on early intervention and prevention of all types of sprains, strains and manual handling injuries during the year through a combination of eliminating manual handling tasks where possible, and encouraging employees to report any signs of strain injuries as soon as they arise. In the US and Canada alone, 205 early reports of pain and possible strains allowed many of them to be treated with first aid, successfully reducing the severity of work related injuries. In the US, Mexico and Canada, investigation of incidents includes assessment of manual task injury reduction action items to further reduce the risk of injury. In addition, an Injury Prevention Active Warmup Program for all

manual task employees was designed during 2017 to help them prepare their bodies and stretch before work. This program will be rolled out in February 2018, with a similar program for office workers to follow. Reductions in musculoskeletal injury rates were also reported across our Asia Pacific business due to the ongoing success of the Hazardous Manual Task Injury Reduction Program, which was established in Australia last year.

Men's Health Week 2017

Men's Health Week was promoted to our employees this year from June 12th to 18th. The 2017 theme was 'Healthy body, healthy mind: keeping the right balance' and explored the different ways men and boys are managing to keep healthy, both physically and emotionally, in a busy and sometimes challenging world. This year, employees were encouraged to raise Men's Health Week as a culture share, tool box talk or an agenda item at their next meeting, with the aim of talking about overall health, which is more than just a visit to the local GP to address an illness, but also involves regular check-ups to maintain a good quality of life, engaging in good health practices and building rewarding emotional relationships with family and friends, as mental health is just as important as physical health. Employees were directed to the Men's Health Week website and were also reminded of the internal resources IPL offers to support Men's Health, including the HSE Men's Health page on our intranet, which contains information to increase employees' understanding of heart health, mental health and general wellbeing, the IPL Employee Assistance Program, and the IPL Work and Life Hub.

The IPL Work and Life Hub

EXPLORE YOUR HUB ✨

In line with our ongoing focus to empower all employees to invest in their health and wellbeing at work and at home, the IPL Work and Life Hub was relaunched during 2017. The Hub is an online support service available to our Australian based employees. Run by our partner, SeventeenHundred, the program is designed to assist our employees to achieve a healthy work-life balance and can help with a range of queries and concerns, from mental and physical well-being to relating to parenting and caring responsibilities. The relaunch included a month-long promotion, which covered 3 life stages, and was promoted through work team meetings, pre-start and toolbox talks, site safety shares, groups on IPL SharePoint and/or IPL Yammer and posters on site notice boards.

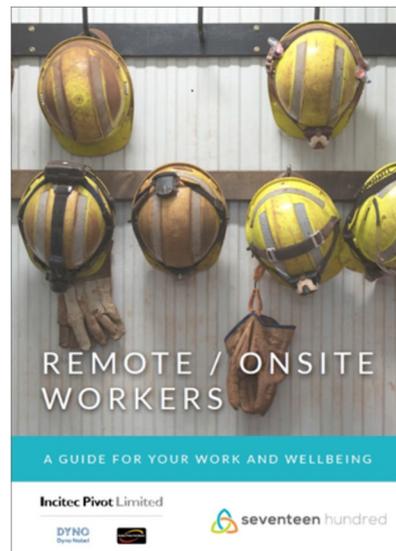
Once registered, employees have access to information and services to help support a healthy work/life balance. Australian employees can access the Program from work or home, and services offered include:

- Finding a nanny or babysitting service profile to ensure the care giver is a suitable match for an employee's family
- Searching for accredited childcare centres, primary and secondary schools close to work or home
- Searching for elder care and disability care information
- Accessing health and nutrition information
- Finding information on government benefits
- The Keeping Connected program, which provides fortnightly emails regarding the stages of pregnancy and the developments of your child.
- Resources for Remote/Onsite Workers Work and Wellbeing
- Parenting, including a Return to Work after Parental Leave Checklist
- Transitioning to retirement

Supporting remote workers' health and wellbeing

During 2017 IPL developed the Remote and Onsite Workers Pack in conjunction with SeventeenHundred to support our Fly In Fly Out (FIFO) and Drive In Drive Out (DIDO) workforce. The Pack includes case studies written using actual IPL remote worker experiences and contains a guide for remote work and wellbeing with information on topics including:

- Benefits and challenges of onsite work
- Onsite and At Home coping strategies
- Help for the families of onsite workers
- Taking care of yourself
- Taking care of the kids
- Taking care of your relationship
- How to find your happy place at work
- Staying positive at work
- Lifestyle lessons from a FIFO worker
- How to fight fatigue and stay safe at work
- Nutrition advice for onsite worker
- Making your money count
- How to find strength in the face of workplace change
- Surviving in a tough work environment





Community

St Helens employee, Rob Opperman, far left, shows St Helens High School students our St Helens operation.

Community

- ◆ Community Engagement
- ◆ Community Safety
- > Community Investment
- > Social Return on Investment (SROI)

Print PDF



IPL understands that long term and meaningful relationships with the community are fundamental to maintaining our social licence to operate, particularly in the area of maintaining community safety. We also believe we have a responsibility to make a positive social and economic contribution to our local communities. As an international industrial chemicals company with operations in many countries, we take a grass-roots approach to community relations.

Community investment and engagement decisions are made locally, where community needs are best understood, and are guided by a Group-wide governance framework.

We are committed to building long term and meaningful relationships with the communities in which we operate in accordance with our Value of *Care for the Community & our Environment*. We actively engage with community members and representatives of national and international charities, regulators, Governments and grass-roots community organisations including resident groups, councils, farmers, sporting clubs and environmental groups.

We aim to have a positive impact by working closely with community representatives, providing local employment and selecting local suppliers wherever possible. We empower our people to engage with their local communities and seek to mitigate negative impacts and create positive perceptions and outcomes for our business.

Our [Sustainable Communities Policy](#) defines our approach to community relations, including commitments to:

- Listen to and work with the community;
- Strive to be a valued corporate citizen; and
- Respect our neighbours, their values and cultural heritage, and be considerate of them in carrying out our operations.

Day-to-day responsibility for assessing our community impacts and implementing community engagement programs rests with local management at each of our sites, as our site managers best understand their needs and concerns. Local priorities are informed by our [Community HSEC Standard](#), which sets our minimum requirements for engagement. Governance of our community investment programs is overseen by the Executive Team.

Key Challenges and Opportunities

- Ensuring alignment of our community activities to our Principles for Giving across our global operations
- Maintaining our social licence to operate with the inherent risks associated with chemical manufacture, storage and transport
- Building our reputation as an employer of choice in the community

Strategic Priorities

- We will continue to improve our approach to community engagement, including:
- Continuing to develop a Group-wide approach to community relations and embedding principles of community engagement at business unit and site level
 - Understanding and working to address the impacts we have on our communities
 - Embedding the principles of our Community Investment Framework within the ongoing operations of our businesses and functions

Community

Community Engagement

◆ Material issue

Community

- ◆ Community Engagement
- ◆ Community Safety
- > Community Investment
- > Social Return on Investment (SROI)

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As an international industrial chemicals company with operations in many countries, we take a grass-roots approach to community engagement.

Many of our operational sites have community engagement programs in place to facilitate two-way communication between the site and the local community, both directly and through local community organisations. Some of the outcomes associated with these local site community engagement programs during 2017 include:

- Our manufacturing site in Geelong, Australia conducts community meetings twice a year. Advertised through local letter box drops, the meetings are attended by site neighbours, including the North Shore Residents Group. During the meetings site representatives present data about the site, such as safety information and results of ongoing environmental monitoring. Community leaders are provided with the telephone numbers of key site employees and are able to notify them of issues if they arise. The site also provides an annual award for the top engineering graduate from Deakin University, and funds and equipment for the annual Moorpanyal swim held by the North Shore Residents Group.
- Our manufacturing site in Portland, Australia also holds community consultation group meetings which are advertised in the local newspaper. The agendas include updates on the company's performance, upcoming projects, general discussion and a question time. Environment Protection Authorities officers, representatives from the Glenelg Shire Council, local residents and other industries are invited to attend.
- Our Portland site also hosted students from Future Leaders of Industry as part of their Industry Tour Day. The day provides businesses with a platform to showcase their organisation and the careers and opportunities they offer locally, as well as their involvement in and contribution to the community. The students provided with a hands-on opportunity to gain an insight into the working world and get an understanding of the types of careers Portland businesses can offer them. It is also a rare opportunity to meet and ask question of key leaders and experienced professionals within the Portland community.
- IPL's Gibson Island plant in Queensland, Australia partnered with the Australian Red Cross Blood Service as part of its lifesaving, Red25 corporate donation program. A mobile donor centre visited the site to allow employees to make a blood donation. We are very proud of all those who supported the donation program and would like to thank them for their contribution to help save the lives of the many Australians that require blood every day.
- Our Helidon Dyno Nobel manufacturing site supported the Helidon State School in Queensland,

Australia to re-introduce their Community Fete following a 30 year break. Our employees lead a golf putt putt stand for local children and helped raise in excess of \$4,000 for the school.



- IPL also matched the \$1,225 amount raised by our employee Leanne Fry, as she rode in the Townsville to Cairns Bike Ride. The Bike Ride is a charity organisation that raises money for the Children's Cancer Institute. Participants in the three day, 358km bike ride complete over 100km a day, challenging themselves physically and mentally with an end goal of raising money and awareness for childhood cancer research. IPL was proud to support both Leanne and her chosen charity.

- Sites regularly participate in community forums, working with local representatives to ensure appropriate plans are in place to mitigate the impact in of an emergency. For example, our Big N Fertiliser Depot in Moree, Australia participates in the annual Emergency Simulation day with the Local Emergency Response Team. An Emergency Response Plan is activated for the community and the surrounding area, together with the local Fire Brigade, Ambulance and Police. On completion, the



site holds a BBQ and conducts a debriefing session with the NSW Fire Team. The Police and Ambulance services also attend the debriefing when possible. The community can access the site's Emergency Response Plan and [Community Safety Information Flyer](#) from Moree Local Library. For more details, see [Community Safety](#).

Case Study: Our explosives manufacturing site located in Cheyenne Wyoming, USA, has a long history of local community support.

This year employees continued to focus on helping the underprivileged, running community safety events and responding to local emergencies. Donations, sponsorships and time were given to support a wide range of local charities and causes. Thanksgiving baskets containing a full thanksgiving dinner were assembled by employees and delivered to eleven families in need in the local community. On-site blood drives are held twice a year to support the community and remind us to treasure our health and safety. The site purchased over 100 gifts for Cheyenne's Christmas Angels, and organisation which aims to provide Christmas for families, the elderly and children in need through giving to create 'forever memories'.

Organisations supported in 2017 included:

- Cheyenne Chamber of Commerce
- Cheyenne LEADS
- Leadership Cheyenne
- Cheyenne Animal Shelter
- Black Dog Animal Rescue
- Cub Scouts
- Cheyenne Extreme Softball
- Cheyenne Central, South and East High Schools
- Boys and Girls Club of Cheyenne
- Cheyenne Frontier Days
- Cheyenne Superday
- Cheyenne Recreation League
- American Royal Miss
- Cheyenne Youth Symphony

Our Cheyenne Family Safety Day is run on site each year with the goal of educating local families about a range of safety issues.

The Safety Committee at the site started Family Safety Day in 2009 because it believes home safety is just as important as safety at work. It also fits perfectly with IPL's key Value of Zero Harm for Everyone, Everywhere. Now a popular annual fixture, the Safety Day is an innovative way of teaching families about home safety. Both adults and children have a great time at the fun day, learning valuable lessons such as how to use a fire extinguisher, ladder safety, enjoying fire truck tours and meeting local rescue dogs.

"It started, and has continued, because of the Safety Committee's concern for our employees and their families; hence safety at home," Cheyenne Site Manager Lars Story said. "Safety is 100% of the time, not just when the employees are at work. Family Safety Day is very important. When you teach families about setting up fire escape plans, placement of smoke alarms, and basic first aid, you help them think about being more prepared should something happen. In addition, we get to talk to families about hazards their family member could be exposed to at work, and impress upon them the importance of our employees being focused on their tasks and safety while at work, rather than being distracted."

The event teaches employees and their children important home safety basics such as home fire evacuation, how to select smoke alarm locations and actions to take when confronted with various emergency situations. Parents and children also learn about themes such as how to manage a simple but effective household chemical poison control system. While the day's theme is safety, the children who attend have plenty of fun as they learn how to stay safe.



The Dyno Nobel booth at the annual Cheyenne Chilli Challenge is also a popular community and Dyno Nobel team event.

The Chilli Challenge raises funds for the Boys and Girls Club of Cheyenne, whose mission is to inspire and enable all young people, especially those most in need, to realize their full potential as productive, responsible and caring citizens. The Dyno Nobel booth is manned by a team of our employees who decorate the booth with a theme and make chilli to compete with other booths. Funds are raised via entry ticket purchase, which includes chilli samples, drinks and cornbread, and by voting dollars, which are used to vote for your favourite chili and name the "people's choice" winner for best booth. In 2017 our booth won third prize in three categories including the people's choice.





Case Study: In 2017 the annual Dyno Nobel Salt Lake City Corporate Office Holiday Charity Drive decorated and donated Christmas trees to charities, along with over \$5000 in food and gifts.

The 180 employees on the 5th and 6th floor of our Salt Lake City office belong to one of five SafeDays groups who hold weekly Monday SafeDays meetings. From November 22 to December 20, these meetings were extended to discuss the Holiday Office Drive. Each team decorated a Christmas tree for a charity who provided our teams with a list of their most needed items, which were written on tags and attached to the trees in our offices. Our employees, including management and executives, then selected tags and donated the items indicated, such as non-perishable food, clothing, children's toys, hygiene products, toothbrushes and socks, by placing them under the trees. The trees and gifts were sorted and delivered to the Family Support Center, YWCA Utah, The Road Home and needy families in the community in time for the holiday.

Case Study: Dyno Nobel pledges to 'Blow Up Cancer' with a host of fundraising events culminating in a Race Day where \$4,703 in employee donations, \$1,760 in registration fees and a \$10,000 Company donation was made in June 2017 to support the Susan G. Komen Breast Cancer Foundation (SGK).



SGK is an organisation in the US that addresses breast cancer on multiple fronts such as research, community health, global outreach and public policy initiatives in order to make the biggest impact against this disease. Employees from our SLC and Lehi sites joined with Tradestar and West Jordan Engineering employees, who were assigned to teams which competed to see which team raised the most money. Each member of the winning team received two movie tickets.



The teams made fundraising into funraising, with activities including a Valentine's Day Cookie Share (our kick-off activity), a potluck lunch on sign up day, Pink Cookie Day (with veggies for a healthy alternative), Donation Jars, Friday SGK shirt day to promote the upcoming Race, a March Madness office competition (with the winner getting bragging rights and a \$100 gift card) autographed basketball prizes and 'I'm Walking For' ribbons, which employees purchased for a donation and wore during the Race Day.

The Company provided company team SGK t-shirts and paid the registration fees for all employees who registered with our team. As part of the prevention theme, employees were encouraged to sign a Wellness Pledge to make one or more changes supporting their health, such as to eat smarter, move more, stress less & get regular health check-ups, and post the pledge in their workspace to share with others. In addition, the Mobile Mammograms Unit was invited to our SLC office parking lot, and was provided with lunch coupons to give to the first twenty employees to register.



At IPL, we are committed to engaging and partnering with our Australian Aboriginal and Torres Strait Islander communities. **NAIDOC Week** celebrates the history, culture and achievements of Australian Aboriginal and Torres Strait Islander peoples and is celebrated not only in Indigenous communities, but by Australians from all walks of life.

NAIDOC (National Aborigines and Islanders Day Observance Committee) Week was held from 2 to 9 July with the 2017 theme [Our Languages Matter](#). The theme was chosen to emphasise and celebrate the unique and essential role that Indigenous languages play in cultural identity, in linking people to their land and water, and in the transmission of Aboriginal and Torres Strait Islander history, spirituality and rites through story and song. The week is a great opportunity for all Australians to participate in a range of activities and to support and connect with our local Aboriginal and Torres Strait Islander communities.

This year IPL promoted NAIDOC Week to our employees in the form of an online quiz and a colouring and art competition for children and adults, with prizes for the winners in each category. Prizes included Dreams of Creation colouring in books with over 30 templates and companion books which outline flora and fauna facts, dreamtime and spiritual connection details and colouring in tips. The quiz was designed to test our people's knowledge of Aboriginal and Torres Strait Islander culture as well as to increase cultural awareness. Quiz winners were awarded one of six exclusive contemporary prints by Aboriginal artist Mirree (three of these are pictured to the right).



Employees were also encouraged to engage in NAIDOC activities across Australia where they live and work by contacting their Local Traditional Owner Group, Council, Chamber of Commerce or School for information.

As part of IPL's support for the National Reconciliation Week the Everyday Hero Campaign was promoted to Australian employees to support the Indigenous Literacy Foundation (ILF).

ILF is a national charity of the Australian Book Industry whose aim is to reduce the disadvantage experienced by children in very remote indigenous communities across Australia. ILF's programs focus on creating a special relationship with reading from an early age with free books, some of which are in the First Language, and through publishing stories from communities. Employees raised \$2,450 and the IPL Dollar for Dollar program matched employees donations to the value of \$2000.



National Reconciliation Week runs annually from 27 May – 3 June. These dates mark two milestones in Australia's reconciliation journey; the [1967 referendum](#) and the historic [Mabo decision](#), respectively. 2017 marked two significant anniversaries in Australia's reconciliation journey, being 50 years since the 1967 referendum and 25 years since the historic Mabo decision. As these significant milestones were commemorated during National Reconciliation Week, all Australians were asked to reflect on how they could be part of the next steps in our nation's reconciliation journey, with the theme 'Let's Take the Next Steps'. The [IPL Reconciliation Action Plan \(RAP\)](#) sets out the actions that guide our organisation to work in partnership with Aboriginal and Torres Strait Islander Peoples to help progress reconciliation.

Community

Community Safety

◆ Material issue

Community

- ◆ Community Engagement
- ◆ **Community Safety**
- > Community Investment
- > Social Return on Investment (SROI)

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Due to the nature of industrial and agricultural chemicals, our operations have the potential to impact on local communities.

IPL has measures in place to monitor, manage and prevent potential negative impacts on local communities which may arise. Due to the nature of our business, many sites are required by law to communicate regularly with the community regarding Community Safety Plans which describe the emergency procedures that should be followed to keep them safe in the unlikely event of a potential incident. In addition, potential impacts are also assessed and addressed. For example, where there is any risk of the release of fumes associated with ammonia, purpose built gas detectors are used. These are permanently located near the perimeters of sites that have ammonia storage tanks, ensuring that any potential leaks can be responded to. The detectors set off an alarm to response teams at any time of the day or night if gas is detected.

In North America, 50% of IPL's sites handle materials at locations which have the potential to impact on local community safety and are required to communicate with first responders in the community. Many of these sites are required to actively participate on Local Emergency Planning Committees (LEPCs) as part of the Emergency Planning and Community Right-to-Know Act (EPCRA). For example, our Cheyenne, Wyoming manufacturing site in the USA participates in the Mutual Aid Emergency Response Group along with the local Fire Department, Holly Frontier Refining and Warren Air Force Base. LEPC membership must include (at a minimum):

- Elected state and local officials
- Police, fire, civil defense, and public health officials
- IPL facility representatives
- Environment, transportation and hospital officials
- Representatives from community groups and the media

LEPCs measure their effectiveness against the EPA recommended guideline '[Measuring Progress in Chemical Safety: A Guide for Local Emergency Planning Committees and Similar Groups](#)'.

In the Asia Pacific region, 21% of sites have been identified as either 'Major Hazard Facilities' or sites which are required to provide specialised communications to their communities regarding safety. These sites follow '[Safe Work Australia](#)' guidelines and local regulations in developing emergency plans, establishing and evaluating a Safety Management System, and creating and distributing communications to their communities. Major Hazard Facilities are required to hold regular Emergency Response drills which include site personnel and Emergency Services. Copies of the Emergency Response Plans must be lodged with regulatory agencies, and information in relation to the site's activities and emergency response is provided to local community libraries. A 24 hour emergency contact number must be displayed at each facility, and the name of a contact person provided, from whom information may be obtained, and with whom concerns can be raised. We also publish [IPL Community Safety Reports](#) on our website to provide information and advice for neighbours of our facilities who may be impacted by our activities.

In addition, IPL has a continuous improvement management approach in response to incidents such as gas sensor alarm responses and the IPL Issues Response Manual assists crisis management teams to effectively manage communication and engagement in the event of an incident.

Community

Community Investment

Community

- ◆ Community Engagement
- ◆ Community Safety
- > **Community Investment**
- > Social Return on Investment (SROI)

 Print PDF



Through our Community Investment Framework we are able to deliver long-term sustainable growth for our businesses and ensure the long-term health and vitality of our local communities. The Framework, implemented during 2013, has been one of the key outcomes of our Sustainability Strategy. It has been established to help us to build meaningful community relationships and has enabled us to further support our people in their endeavours to make a difference within their local communities.

The framework sets minimum standards all businesses and sites within the Group are required to uphold when administering community programs and spend, ensuring funds are issued consistently and fairly across our operations. Importantly, the Framework preferences local approaches, enabling each IPL business and site to respond to the distinct needs of their communities.

IPL's Community Investment Framework directs that all community investments are issued in accordance with our 'Principles for Giving'. These Principles have been endorsed by the Executive Team and ensure we have a strategic and consistent approach to community giving across the Group.

The Principles for Giving ensure that we:

- Support activities that provide solutions to local challenges and opportunities in the communities around our operations and where our employees live.
- Place a strong emphasis on supporting initiatives that help local organisations develop the skills and resources to bring positive and lasting benefits to the community.
- Provide funding to initiatives that are aligned to IPL's Values and business strategy, and are integral to the long-term sustainability of the communities where we operate.

Our areas of focus are:

- Education – providing support for childhood, adult and indigenous specific education activities;
- Health – providing support for activities working towards better physical and mental health;
- Community Development – providing support for activities that enrich community life and enhance the social, environmental and economic sustainability of local communities.

IPL Community Fund

The establishment of the [IPL Community Fund](#) in 2013 provided IPL's operations worldwide with a formal avenue through which to apply for grants of up to A\$10,000 (or local equivalent) in support of local community initiatives. Applicants are asked to demonstrate the value of their initiative to the community as well as the link between the initiative they're hoping to support and their site's broader community engagement efforts. In 2014 this fund was suspended and future funding will be reviewed as part of the annual corporate budget process.

Dollar for Dollar Program

Our [Dollar for Dollar program](#), a key component of our Community Investment Framework, matches employee donations and fundraising efforts that are aligned to our Principles for Giving to a total of A\$2000 per initiative. See examples of this fund at work under [Community Engagement](#).

Workplace Giving

Australian employees are offered a voluntary Workplace Giving scheme whereby they can donate to one or more of the company's nominated not-for-profit charities. The process is simple and streamlined, it offers a choice to employees as to how their contributions are directed, and allows them to influence where some of IPL's community giving is focused: IPL has readily, and for a considerable number of years, embraced Workplace Giving matching to a level of \$20,000 for each financial year.

Measuring community investment

This year our total community investment was A\$379,086 including cash and in-kind support. Many donations were made locally, either through the donation of products and services, volunteering, local sponsorships or fundraising efforts. 100 percent of both local and Group donations were made in line with our Principles for Giving, with approximately 35 percent going to health initiatives (including sport), approximately 13 percent going to education and approximately 52 percent to local community development.

Community

Social Return on Investment Metrics

Community

- ◆ Community Engagement
- ◆ Community Safety
- > Community Investment
- > **Social Return on Investment (SROI)**

 Print PDF



More than ever, people want to know how the work they are doing on a daily basis is contributing to the world. At IPL, we recognise that in addition to creating economic value, the social value that we create as a company is also important.

With the completion of our new US\$815 million Waggaman, Louisiana Ammonia Plant towards the end of last year, we worked with Louisiana Economic Development and engaged a third party to assist us in the development of a Social Return on Investment (SROI) metric to help us quantify and communicate the value of our social contribution relative to our financial investment in the new plant. SROI is a principles-based method for measuring the extra-financial value created by companies through investments, such as the development of the Louisiana Ammonia Plant. Built on a brownfield site, the development required no land clearing and created 65 above-average wage positions and 466 flow-on positions (which were valued at average wage). The SROI estimated that for every dollar IPL invested in the plant, US\$3.40 of social value has been created in the local community.

We also created two other SROI metrics. The first valued the social contribution made to the community by the reduction in injury rates as a result of our investment in safety training during the first two years of our [5 year global safety strategy](#). The second valued the social contribution made through our supply of fertiliser for food production in Bangladesh during 2016. The results of our three SROI metrics are presented below and linked to the relevant United Nations Sustainable Development Goal.

SUPPLYING FERTILISER FOR FOOD PRODUCTION & GROWTH IN GDP



For every tonne of fertiliser supplied by IPL, cereal yields were increased by 4.357 tonnes per hectare, which increased the GDP of Bangladesh by AUD\$3.53 per capita

1:1.8
For every dollar invested by IPL in the supply of fertilisers to Bangladesh, \$1.18 of social value was created per person in Bangladesh)

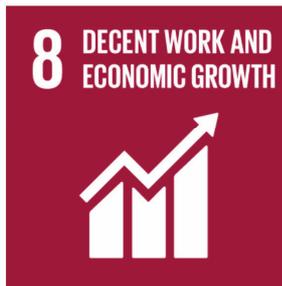
GLOBAL REDUCTION IN INJURIES 3.2 MILLION INVESTMENT IN SAFETY



In the first two years of IPL's 5 year safety program, injuries were reduced by an average of 25 per year, which saved the community an average of AUD \$103,950 per injury* (*Safework Australia)

1:66
For every dollar IPL invested in the first 2 years of our 5 year safety program, AUD\$66 of social value was created in the community

ECONOMIC DEVELOPMENT THROUGH AN \$815 MILLION INVESTMENT IN THE WAGGAMAN LOUISIANA AMMONIA PLANT



This development, on an existing industrial brownfield site, required no land clearing and created 65 above average wage positions and an estimated 466 flow on positions (Louisiana Economic Development) valued at average wage)

1:3.4
For every dollar IPL invested in the Waggaman, Louisiana Ammonia Plant, US\$3.4 of social value has been created in the local community



◆ Environment

- ◆ Energy and greenhouse gases
 - > Reducing NOx and SOX
- ◆ Water
 - > Waste
- ◆ Environmental Compliance

Print PDF



We rely on resources such as natural gas and water, and we have the potential to impact the environment through emissions of greenhouse gases (GHG), waste generation and contamination of soil and groundwater. We are committed to our Value of 'Care for the Community & our Environment' and we aim to minimise environmental impacts and leave no legacies.

In line with our Value of "Care for the Community and our Environment", we apply a continuous improvement approach to management of environmental matters, focusing on the efficient use of non-renewable resources, environmental management at our sites and the rehabilitation and remediation of contaminated sites.

Our [Health, Safety, Environment and Community Policy](#) states that we will conduct our operations in compliance with all relevant environmental licences and regulations; promote the efficient use of resources and energy; and strive to minimise our impact on the environment. This Policy is enacted on a day-to-day basis through our [HSEC Management System](#). Our induction process includes discussion and sign off on our HSEC Policy for all employees.

CDP

IPL completes the CDP and Water CDP annually. These are available on our website and can also be downloaded here: [2017 CDP Report](#) [2017 CDP Water Report](#).

MAJOR PRODUCTS LCA

We have conducted high level Life Cycle Assessments of the energy and carbon emissions associated with our two major manufacturing processes, being the production of [ammonia](#) and [ammonium nitrate](#). The first is based on our Phosphate Hill site, which makes ammonia based fertilisers. The second is based on our Moranbah ammonium nitrate manufacturing site. Each is representative of the scope and activity of our manufacturing operations across the Group.

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.

Our consumption of resources, such as fossil fuels (mostly natural gas), electricity and water and the amount of GHG emissions we produce is representative of the scale and capacity of our manufacturing plants, in particular the energy-intensive manufacture of ammonia-derived products, including urea, ammonium sulphate, ammonium phosphate and ammonium nitrate for the fertiliser and explosives markets. All of these products require natural gas as both an energy source and a raw material for production, with carbon dioxide being liberated during the process. In addition, carbon dioxide is liberated during the acidulation of phosphate rock in the manufacture of phosphate fertilisers and nitrogen oxide (NO_x) and nitrous oxide (N₂O, a potent GHG) are released during the production of nitric acid.

IPL has a strong focus on both abatement technologies and progressively increasing resource efficiencies to reduce its impacts on the environment, including GHG emissions which contribute to climate change.

In Australia, a central reporting system collects energy use, water use and waste data from all manned sites. The data is obtained from utility bills, except where electricity is generated on site. Electricity generated from natural gas at remote sites is metered on site and this is also entered into the database. Municipal water use is obtained from water bills, whereas volumes for storm water, river water, recycled process water or ground water are typically metered on site. The data is then consolidated and verified for reporting purposes. Energy use, water use and waste data for our sites in North America and Europe are supplied separately.

Key highlights during 2017:

33% REDUCTION IN NO_x PER TONNE NITRIC ACID **9% REDUCTION IN GHG/TONNE NITRIC ACID**

5% reduction in GHG per tonne of ammonia produced

[Link:](#)
What is BEx?

Our sites are driving environmental improvements and resource efficiencies using BEx continuous improvement processes.

- Environmental metrics are included on BEx visual management boards, which are reviewed at site daily management meetings.
- Continued environmental training across our manufacturing and distribution sites, focusing on: environmental requirements and compliance; stormwater and universal waste management; protecting endangered species; spill prevention and response procedures; and environmental release reporting.
- Environmental team members undertake 'Gemba' walks at our manufacturing and distribution sites. 'Gemba' is a Japanese word which means "at the site". When Gemba is used in conjunction with process improvement methodologies, it refers to the act of making observations of the process in action, then working with employees to recognise and address potential environmental hazards in their work areas.
- Environmental goals associated with progressing along the BEx maturity scale are being progressively incorporated in to the short term incentive plans of our US manufacturing environmental team members
- Addressing resource efficiencies and 'loss and waste' using BEx processes.
- Increasing environmental incident reporting across the Australian businesses to include 'near miss' or 'potential impact' incidents in order to proactively manage potential incidents before they occur.
- Continuous improvement of raw material and bulk product handling processes to reduce loss, waste and spills.

Key Challenges and Opportunities

- Continuing to identify and prioritise resource inefficiencies and reduce energy, water and waste
- Securing capital to drive resource efficiencies in difficult market conditions.
- Responding to changing carbon regulatory conditions globally, particularly in Australia.
- Continuing to improve our environmental compliance and management systems, and our environmental performance.
- Responding to climate change risks and opportunities.

Strategic Priorities

- Conducting water balance projects at three major manufacturing sites.
- Extending iAuditor to Australian manufacturing sites to conduct daily environmental photo logs.
- Continued focus on improving environmental awareness through training, with an emphasis on loss of containment, spill prevention and stormwater pollution prevention.
- Continuing to work with the Australian Federal Government on energy and carbon policy to ensure favourable outcomes for business and the environment.

Environment

Energy and Greenhouse Gases

◆ Material issue

◆ Environment

◆ Energy and greenhouse gases

> Reducing NOx and SOX

◆ Water

> Waste

◆ Environmental Compliance

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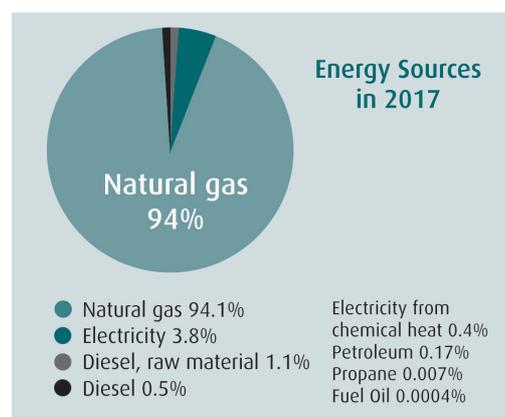
Although IPL’s energy use and emissions increased with increased production, targeted global reductions in GHG emissions per tonne of product were achieved in 2017, with a 5 percent reduction per tonne of ammonia produced and a 9 percent reduction per tonne of nitric acid produced.

These targeted reductions were achieved due to the greater efficiencies at our new Waggaman Louisiana ammonia plant, and our investment in a new [NOx abatement unit at Louisiana, Missouri](#). The efficiency targets at Waggaman which support these ongoing reductions were linked to executive remuneration through the Long Term Incentive plans, as explained in our [Annual Report](#).

Energy use

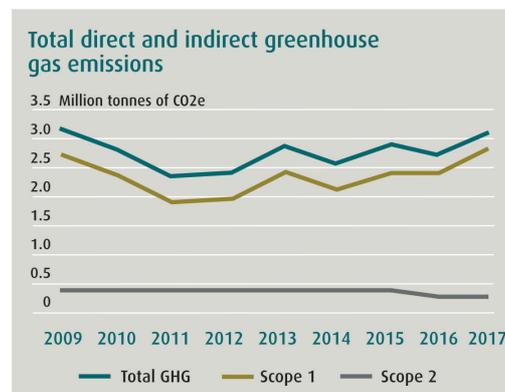
IPL used 61,972,212 gigajoules (GJ) of energy over the past year, 2,244,029 of which was purchased electricity. Approximately 80 percent of the electricity purchased was generated from non-renewable sources. Approximately 20 percent of the purchased electricity (indirect energy) was generated from renewable resources, mostly hydroelectric. Natural gas and diesel amounts used as raw materials and on-sold in our products have been included in our energy use figure.

Approximately 1 percent of our direct energy is from CO2e-free sources, which includes electricity that is generated from heat captured during the manufacture of sulphuric acid.



Greenhouse gas emissions

In 2017 our recorded Scope 1 (direct) and 2 (indirect) absolute GHG emissions increased to 3,086,553 tonnes of carbon dioxide equivalent (CO2e). The total figure comprises 2,749,847 tonnes of Scope 1 (direct) emissions and 336,707 tonnes of Scope 2 (indirect) emissions. These increases were due to the new Waggaman, Louisiana plant, which increased IPL’s ammonia production. Assurance was obtained over our Australian GHG emissions, energy consumption and production figures for the period 1 July 2016 to 30 June 2017. The third party issued an unqualified opinion over our reported emissions, energy production and energy consumption.



Continuously improving our performance

In line with the sustainability strategy to ‘Use Less’ and ‘Care for the Environment’, our manufacturing plants continued to reduce both energy use and carbon emissions in 2017 through initiatives such as lighting reviews, plant energy optimization projects and other continuous improvements.

- At St Helens, Oregon, a project to convert the pneumatically controlled plant instrumentation to electronic instrumentation reduced annual electricity use at the site by 161,971 kWh.
- At Cheyenne, Wyoming, energy efficiency projects included pump and boiler optimisation and steam saving projects, which saved over 1,000,000 kWh of electricity and 73,000GJ of natural gas during 2017.
- The application of an internal coating to the reformer at Cheyenne, Wyoming will deliver further reductions in gas use during 2018.
- At Moranbah, Queensland, a project to preheat deaerator feedwater with process heat currently lost to the atmosphere is expected to save 196,000 GJ of natural gas, reduce GHG emissions by 10,000 tCO2e and save over \$1,000,000.
- The installation of variable speed drives on cooling tower fans at Mt Isa, Queensland is expected to save 2,916,667 kWh of electricity, reduce emissions by 2,305 tCO2e and reduce costs by over \$400,000.
- We also quantified the [Scope 3 emissions associated with our shipping](#) for the second year in 2017.

Environment

Reducing NOx and SOx

Environment

- ◆ Energy and greenhouse gases
 - > Reducing NOx and SOx
- ◆ Water
 - > Waste
- ◆ Environmental Compliance

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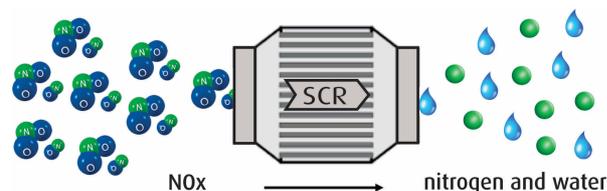
Nitrogen oxides (NO₂ and NO, referred to collectively as NOx) are released when fuels are burned at high temperatures, and when nitric acid is manufactured. Sulphur oxides (SO, SO₂, SO₃, referred to collectively as SOx) are emitted when fossil fuels are combusted, and in the making of sulphuric acid. This year our operations emitted 3,178 tonnes of NOx and 16,853 tonnes of SOx. This is an absolute reduction of 20% in NOx emissions and 14% in SOx emissions since last year. Although not greenhouse gases, NOx and SOx have other environmental impacts, such as air pollution. We are committed to reducing emissions of NOx and SOx across our global manufacturing sites.

During 2017 work was completed on the US\$7,700,000 Selective Catalytic Reduction (SCR) unit at our Louisiana, Missouri, nitric acid plant. This unit reduced NOx emissions at the site by more than 95 percent, which enabled IPL to achieve its 2017 global target of a 30 percent reduction in NOx emissions per tonne of nitric acid produced. All of IPL's nitric acid plants are now fitted with NOx reduction technology.

20%
ABSOLUTE
REDUCTION IN
GLOBAL NOx

What is SCR?

Selective catalytic reduction (SCR) is a proven active emissions control technology system that converts NOx into nitrogen (N₂) and water (H₂O), which are natural elements common to the air we breathe everyday. It is called selective because it injects a liquid-reductant agent, in this case, ammonia, (NH₃) through a special catalyst to react specifically with NOx. SCR using ammonia as the reducing agent was patented in the United States by the Engelhard Corporation in 1957. Development of SCR technology has continued in Japan and the US with more recent research focusing on less expensive and more durable catalyst agents. The SCR process is the most efficient NOx reduction technology available because it provides the best conversion rate of NOx to environmentally friendly nitrogen and water.



In addition to the significant reductions achieved at Louisiana, Missouri, other sites are also investing in NOx and SOx reductions. At Carthage, Missouri, work progressed during 2017 on the design of a new wet scrubber system for the acid tanks. This scrubber will receive vent fumes from both nitric and sulphuric acid tanks. The scrubber will recirculate the water, creating a weak acid stream which will then be sent for distillation to separate nitric and sulphuric acid products for use in product manufacture. During 2017, a NOx analyser was installed at St Helens, Oregon, and the evaluation of existing NOx scrubber efficiencies will continue to be assessed at other nitric acid manufacturing sites.

At Mt Isa, Australia, we invested \$1,480,000 in a new high efficiency catalyst in the sulphuric acid plant converter in the first half of 2017. This new catalyst will improve the conversion of sulphur dioxide (SO₂) to make sulphuric acid, reducing SOx emissions at the site by up to 30% in a full year.

14%
ABSOLUTE
REDUCTION IN
GLOBAL SOx

Environment

Water

◆ Material issue at some sites

◆ Environment

- ◆ Energy and greenhouse gases
- > Reducing NOx and SOX
- ◆ Water
- > Waste
- ◆ Environmental Compliance

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Water is a key raw material for the manufacture of ammonia which is the key component of our explosives and fertiliser products. Within our ammonia plants, the majority of water use is for cooling during the manufacturing process. A small percentage is used for steam to power equipment and as an input for the chemical reaction that makes ammonia. The risks and opportunities associated with water management as it relates to climate change have been assessed and are described in our annual [CDP Water submission](#).

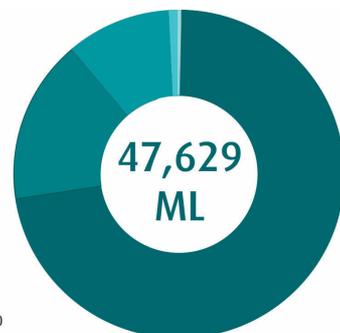
While the majority of IPL’s manufacturing plants are located in regions with plentiful natural supplies of water, some of our Australian sites and one in the South West of the United States operate in regions where water conservation is a critical issue. In other regions, where there is higher rainfall, we recognise that water management is also important.

Water use by source

During 2017 we withdrew 47,629 ML (mega-litres) of water, a 9 percent increase from last year. This increase is mostly due to the new Waggaman, Louisiana ammonia plant. Our total reported water use includes the categories shown on the right. A large proportion of this water is used more than once within our plants, but most sites do not meter this recycling of water. 815 ML of water was recycled and reused at sites which have meters. This represents 1.7 percent of our withdrawal and 5.2 percent of our total water use.

Water Use by Source:

- Surface water - 73%
- Groundwater - 17%
- Municipal water - 9%
- Recycled water - 1.7%
- Storm water - 0.2%
- Desal water - 0.004%
- Rain water - 0.00003%



Water discharge by destination

During 2017 we discharged 32,446,002 m3 of water to the environment, an decrease of 9 percent. This total discharge excludes sewage, and waste water removed for treatment or disposal as liquid waste (which are included under 'Waste'). It includes some discharge of rainwater where runoff is collected and treated at several sites in North America, and therefore cannot be separately metered. As shown in the graph, most discharge was clean cooling water which was released to the natural waterways from which it was taken, reducing our net water use to 15,670 ML. We monitor the water quality of such discharges on an ongoing basis to meet local regulatory requirements and also seek to improve water quality beyond the standards required by licensing wherever possible.



98%
CLEAN WATER TO SURFACE WATERS

- Surface waters - 98.5%
- Groundwater - 1.2%
- Sewers - 0.3%

Improving our performance

Continuous improvements in 2017 included:

- At Cheyenne, Wyoming, the recovery of boiler blowdown water, and the reclamation of waste water streams through reverse osmosis and brine concentrator units saved 89,941 kL of water in 2017, exceeding annual estimations of 70,000 kL.
- Also at Cheyenne, a water balance project has identified 65,000 kL of water savings through the reuse of pond water and the recovery of barometric tank overflow and nitric acid blowdown waters. These projects will be implemented in 2018 along with water balance projects at three other manufacturing sites.

- At Carthage, Missouri, a 5 year project begun last year to completely redesign the site wastewater system has progressed to 40 percent completion in 2017. In addition to reducing waste water, significant water savings are expected due to the reuse of waste water streams.
- At Wolf Lake, Illinois, the use of recycled water in the scrubber system and centrifuge wash down was initiated. This will save over 300 kL per year.
- 64,937 kL of water was recovered from waste gypsum stockpiles at our Phosphate Hill site in Australia, also recovering valuable phosphates for fertiliser production.

In addition to IPL's comprehensive annual risk management process, the WBCSD Global Water Tool is completed each year for long term projections and reviewed by the Chief Risk Officer. This analysis is used to identify sites at which water is a material issue.

The tool has identified one ammonia manufacturing site in the United States where baseline water stress in the water catchment area is high. It has also identified one ammonia manufacturing site and several smaller manufacturing sites in Australia as being located in water catchment areas which may experience water stress by 2025. Water supplies and water management strategies at these sites are discussed below.

Cheyenne: Wyoming, USA

At our ammonia manufacturing site at Laramie County, Cheyenne, Wyoming, USA, water resources are of particular concern and management involves multiple stakeholders. Located in a semi-arid area, water for the site is drawn from an underground aquifer which is recharged each year by precipitation, including snowmelt. We engage with key stakeholders including the Wyoming State Engineer's Office (SEO) which manages stakeholder access to the aquifer and maintains databases for ground water levels, along with the Ground Water Division of the U.S. Geological Survey, and our Cheyenne site monitors wells through totalizing flowmeters and water level measurements and reports to the SEO annually. Water saving initiatives at the site include:

- The monitoring and maintenance of steam traps and condensate systems to reduce water loss.
- Operation of a brine concentrator unit which recycles approximately 100 gallons of water per minute.
- Operation of a mobile reverse osmosis unit, reclaiming 75,000 kL of waste water for reuse each year
- Communication to personnel through daily reports to watch for and prevent excess water from running
- Visual management board for water reduction projects and efforts
- The creation of the position of Focused Improvement Engineer in 2016 to focus specifically on further water reduction opportunities including the development of a complete water strategy for the site, which was completed in 2017 and has been submitted for management review.

Phosphate Hill: Queensland, Australia

Located in the Georgina Basin, IPL's Phosphate Hill site in remote North West Queensland manufactures ammonium phosphate fertilisers, which requires large volumes of high quality cooling water. In addition to its ammonia, rock processing, phosphoric acid and granulation plants, Phosphate Hill has its own phosphate mine, ore processing facility and, due to its remote location, its own gas fired power plant, reverse osmosis water treatment plant and employee accommodation village. The WBCSD Water tool identifies this site as being in an area which may experience water stress by 2025 due to the high inter-annual variability of rainfall. To ensure supply, groundwater is drawn under licence from the phosphate orebody, which is porous and contains an aquifer called the Duchess Embayment Aquifer (DEA). The many aquifers in the Georgina Basin are naturally recharged by rainfall during the summer wet season and were identified as a renewable (annually replenished) groundwater resource with high groundwater development potential (over 100GL/yr) by a recent [inquiry into the development of northern Australia](#) by the [CSIRO](#). Although wet season rainfall over the last several years in the DEA has been lower than the long term average, ongoing model prediction and quarterly monitoring conducted using 39 monitoring bores across the embayment indicate that adequate supply to the site is currently being maintained. In addition to monitoring for potential changes in the embayment, the Phosphate Hill site submits an annual Borefield Performance Report to the Queensland Government Department of Natural Resources and Mines (DNRM) each year in September and completes an Annual Aquifer Review in December each year.

Our Phosphate Hill site is committed to reducing water usage wherever possible through continuous improvements and water recycling strategies. These presently include multiple re-uses of cooling water (our major use) and reclamation of water from waste gypsum stacks. Mine dewatering, a process to remove water so that the phosphate ore body can be accessed, was ceased in 2015 and a third party specialist was commissioned to complete a Water Balance Study for the site. This initiated a project to identify specific actions to reduce water use at the site by 5% each year, commencing in 2016. As a result, the site used 11 percent less water in 2016 than the previous year. However, projects delivering targeted water reductions for 2017 were delayed due to the construction of a new evaporation pond. These projects, involving the reuse of process water to allow both the recapture of phosphates and the reduction of fresh groundwater extraction, will be completed in the first quarter of 2018, supporting an ambitious water reduction target of 5 percent in 2018 against 2017 usage.

Geelong: Victoria, Australia

The Geelong site manufactures single super phosphate fertilisers, a process which requires much less water than ammonia manufacture. However, the site has been identified by the WBCSD Water Tool as being in a water catchment area which may experience water stress by 2025. The site obtains its water from the state government managed [Barwon Region Water Corporation](#), Victoria's largest regional

urban water management body. Barwon water is predominantly sourced from forested catchments on the upper Barwon and Moorabool rivers, but during periods of prolonged drought water is sourced from underground aquifers via the Barwon Downs and Anglesea bore fields. In extreme drought, the water management body can also access supply from the water grid of the City of Melbourne via the [Melbourne to Geelong Pipeline](#), a 59-kilometre underground pipeline which is part of the state's long-term plan to secure the region's water supply into the future. Water saving strategies at the site include the on-site capture, treatment and reuse of large volumes of stormwater, with 57,754 kL being treated and re-used this year. A complete water balance project for the site will be carried out in 2018 in order to identify potential water savings and opportunities to better manage waste water and stormwater.

Mt Isa: Queensland, Australia

With an estimated population of 21,998 as at June 2016, the mining town of Mount Isa is the administrative, commercial and industrial centre for the state's vast north-western region. Our Mt Isa site manufactures sulphuric acid using waste sulphur obtained from a nearby metal ore mine. This process also uses less water than ammonia manufacture, however steam is also used at the site in the process of generating electricity from waste heat captured from the sulphuric acid making process. Water for the site is obtained through the [Mount Isa Water Board](#) which is responsible for the sustainable management of water supplies in the region. Although identified by the WBCSD Water Tool as being located in an arid area which may experience water stress by 2025, the Water Board manages supply using two man-made lakes. Water is drawn mostly from Lake Moondarra (owned by a metal ore mining company, but transported by the Mt Isa Water Board) 13 kilometres downstream of Mt Isa, and pumped 60km up from Lake Julius in times of extreme drought to ensure supply is maintained.

Water saving strategies at the site include the condensing of all steam used in our on-site electricity generation turbine and the returning of any blow down water from our cooling towers to the nearby metal ore mine as process water.

Bajool: Queensland, Australia

Our site at Bajool, Australia, manufactures explosives emulsions. Although identified by the WBCSD Water Tool as being in a watershed area which may experience water stress by 2025, water supply is not considered a material issue at this site due to the low water usage required for emulsion manufacturing processes. Drinking water is delivered in bottles and all other water for the site, including amenities, is drawn from a small on-site bore under licence granted by the Queensland State Government.

Environment

Waste

Environment

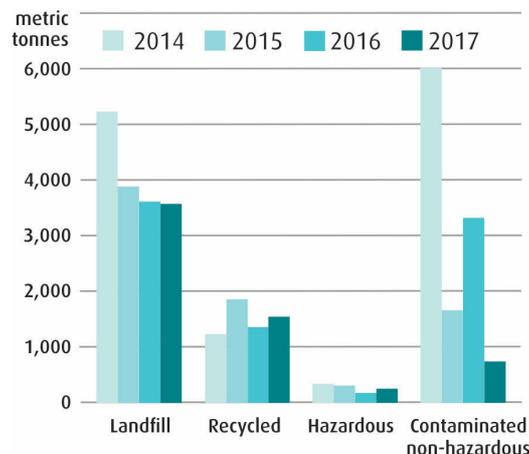
- ◆ Energy and greenhouse gases
- > Reducing NOx and SOX
- ◆ Water
- > Waste
- ◆ Environmental Compliance

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Solid waste by destination

This year our sites generated 6,580 tonnes of solid waste, 26 percent less than last year. This decrease was mostly due to decreases in non-hazardous contaminated wastes in our Americas business. As shown in the graph to the right, our global waste to landfill has continued to decline for the past four years, maintaining the waste-to-landfill reduction targets which began with targets set in 2014 in Australia. In 2017, approximately 3.1 percent of our solid waste was classified as hazardous and was mostly waste from the manufacture of our explosives products. In the Americas, 300,889 tonnes of ammonium nitrate that was unsuitable for use in explosives manufacturing was converted to fertiliser and sold to local farmers as either a nitrogen rich liquid fertiliser, or a low grade solid fertiliser.

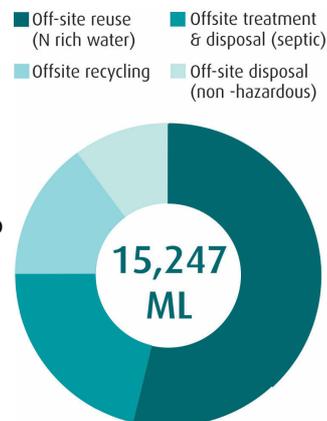


Solid chemical waste

Our sites generated 2,224,578 tonnes of solid chemical waste this year, an increase of 4 percent from last year. Over 99 percent of this was phosphogypsum chemical waste that was stockpiled at our site in Phosphate Hill, Queensland, Australia. This waste is considered hazardous because of its low pH, however water and phosphate are currently being reclaimed from this material and it is planned that these stockpiles will ultimately be capped and re-vegetated. The other 268 tonnes (0.01 percent) of hazardous chemical waste was mostly generated during explosives initiation system manufacturing.

Liquid waste by destination

Our sites generated 15,247 kL of liquid waste that was sent offsite for re-use, recycling or disposal this year, an increase of 6 percent from 2016. This liquid waste total includes 10,691 kL of contaminated water, 5,028 kL of hazardous liquid waste and 840 kL of non-hazardous waste. Approximately 56 percent of the total liquid waste was nitrogen-rich water from our fertiliser manufacturing and distribution sites in Australia that was sent offsite to third parties for use as fertiliser and/or woodchip additive. This increased by 2 percent in 2017 with a successful Resource Recovery Exemption at an additional fertiliser distribution site which diverted 5 kL of nutrient rich water from waste to reuse and saved the site an estimated \$160,000 per year in disposal costs. 73 percent of the hazardous liquid waste was septic liquid or sludge (considered a bio-hazard) which was sent offsite for disposal or treatment.



2017 Waste reduction initiatives

- At Moranbah, Australia, technology was internally developed to allow out-of-specification ammonium nitrate to be used in the manufacture of explosives emulsions, recycling 4,287 tonnes in 2017.
- At our St Helens, USA plant, a project to recycle oil-water sludge through the filter press system was implemented, reducing the amount of waste produced.
- Galoryl day tank waste from our Louisiana, Missouri, USA site is now sent for reclaim.
- At Carthage, USA, a 5 year project begun last year to completely redesign the site wastewater system has progressed to 40 percent completion in 2017. The project is considering all wastewaters and evaluating each stream for reduction, elimination or reuse to reclaim valuable ammonia and nitrates, including solids which have previously been filtered and disposed of.
- In 2017, our Carthage, USA site realised the benefits from the installation of a \$260,000 Micro-Auto Gasification System (MAGS) purchased last year. The MAGS converts the organics in non-hazardous explosives contaminated waste into syngas, which is used as fuel for the MAGS and to generate hot water. This saved approximately \$130,000 in waste disposal and energy costs this year and contributed substantially to the [reduction in solid waste](#) reported above.
- At Simsbury, USA, approximately \$4,000 and 150 plywood sheets were saved in 2017 through processes established last year to eliminate the use of plywood in customer shipments and to divert plastic wrap, bolts and metal flanges to recycling with the metals from 3,759 spools recycled.

Environment

Environmental Compliance

◆ Material issue

◆ Environment

◆ Energy and greenhouse gases

> Reducing NOx and SOX

◆ Water

> Waste

◆ Environmental Compliance

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As a Large Emitter under Australian National Greenhouse and Energy Reporting (NGER), IPL is required to report annually on energy and GHG emissions associated with more than 50 sites across Australia. Direct and indirect emissions from our Australian operations are reported to the Government under this national initiative, which began in 2009. Assurance was obtained over our Australian GHG emissions, energy consumption and production figures for the period 1 July 2016 to 30 June 2017. The third party issued an unqualified opinion over our reported emissions, energy production and energy consumption.

We report environmental release and discharge data to the National Pollutants Inventory in Australia, the Toxic Release Inventory in the United States, the National Pollutant Release Inventory in Canada and the Register of Pollutant Release and Transfer in Mexico. As required in New South Wales (NSW), Australia under the Protection of the Environment Operations Act 1997, holders of Environment Protection Licences who undertake pollution monitoring as a result of a licence condition must publish monitoring data on their corporate website. Of the five Environment Protection Licences which we hold for our NSW sites, there was one which required us to undertake pollution monitoring during 2017 ([Kooragang Island](#)) and we continued to publish this data on our [website](#).

We are subject to environmental regulation under the jurisdiction of the countries in which we operate including Australia, United States of America, Mexico, Canada, Indonesia, Papua New Guinea 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. We operate 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. 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.

Continuous improvement during the 2017 financial year was focused on improving product handling, and compliance and risk management, including the amendment of the IPL Risk Assessment matrix to better recognise environmental risk.

Highlights included the following:

- The development of an engineering framing assessment model to identify engineering and operational opportunities to improve environmental outcomes.
- The Introduction of iAuditor across the fertiliser distribution business to conduct daily site photo logs. In the first three months, 321 daily photo logs identified 568 potential issues.
- Environmental Site Assessments at 32 sites across North America.
- The continued auditing of spill prevention, control and countermeasure plans across North America, and the use of visual management tools and lean processes, particularly 5S, to increase loss of containment awareness globally. This has resulted in increased operational control of product and a reduction in environmental risks associated with product tracking and spills.
- The maintenance of the [Environmental Incident Frequency Rate](#) (EIFR) below 1 at just 0.49, a reduction of 35% on the 2015 EIFR, with a target set for 0.9 or below in 2018.

35%
REDUCTION
IN ENVIRONMENTAL
INCIDENT
FREQUENCY RATIO
SINCE 2015

Fines

For the 2017 financial year, the Group received fines in aggregate of \$23,319 for incidents relating to its fertiliser operations in Australia. On 31 May 2017, the Land and Environment Court of New South Wales ordered a subsidiary of the Company to pay a fine of \$460,000 and costs of \$72,750 to the Environment Protection Authority in connection with an incident at the Group's Warkworth manufacturing facility in Australia involving an inadvertent release of waste water during remediation works on site in 2015.



Products and Services

◆ Material issue

◆ Sustainability of Products and Services

- > Suppliers and Raw Materials
- > Product Quality
- > Fertiliser Research and Development
- > Explosives Research and Development
- > Best Practice in Fertiliser Use
- > Minimising the Impacts of Blasting
- > Customer Health and Safety
- > **Customer Support & Engagement**

Through Incitec Pivot Fertilisers, IPL supplies approximately two million tonnes of fertiliser per year across Eastern and Southern Australia. We distribute fertilisers manufactured in our four fertiliser manufacturing operations in Australia as well as imported fertilisers. Our product range includes products such as urea, ammonium phosphates, ammonium sulphate, single super-phosphates, anhydrous ammonia as well as speciality products such as those treated with urease and nitrification inhibitors. Blending facilities for solid fertilisers are located at strategic centres throughout the market place, offering a range of blends and, for farmers who request them, individual custom blends tailored to specific needs.

Our sustainability focus within the fertiliser value chain is on ensuring that the health, safety and environmental impact of products and services are considered and managed responsibly throughout the product life cycle, with a particular emphasis on the effective use of fertilisers.

Product Stewardship regarding fertiliser products is the responsibility of the Agronomy function within IPL and our approach is defined in our Product Design and Stewardship Standard, included in our [Health, Safety and Environment Management System](#). The Standard requires that “health, safety and environmental impact of products, product packaging and services are considered and managed responsibly and ethically throughout the product life cycle, including: research and development; purchase of raw materials, intermediates and finished products; manufacture; formulation; packaging; labelling; storage; sale; transport; use and the disposal of damaged products, waste and packaging.” Many industry issues concerning agricultural fertilisers are not confined to individual suppliers. These are addressed at the industry level through [Fertilizer Australia](#). As Australia’s largest fertiliser supplier, IPL is a key member of Fertilizer Australia and actively engages in their Product Stewardship activities.

We supply explosives through the Dyno Nobel brand in the Americas, Europe, Australia and the Asia Pacific. We manufacture, distribute and sell bulk and packaged ammonium nitrate-based explosives and blasting supplies as well as providing services to customers in the mining, quarry, construction, pipeline and geophysical exploration industries.

Efforts to mitigate the environmental impacts of our explosives products continue to be focused on improving the sustainability of the input materials we use for manufacture, as well as the impacts resulting from their use.

Our focus includes:

- Reducing the energy, greenhouse gas emissions, water use and waste associated with the manufacturing and transport of our products (discussed in the [Environment](#) section).
- Ongoing fertiliser research and development programs focused on joint development and extension with customers, including the development and promotion of enhanced efficiency and low GHG emission fertilisers.
- Maintaining product quality.
- Adopting and promoting the [Fertcare](#) principles and code of practice for responsible fertiliser use, a joint initiative between Fertilizer Australia Inc. and the Australian Fertiliser Services Association.
- The provision of R&D support to facilitate the internal recycling of both high nutrient waste waters and old product into manufacturing.
- Recycling our packaging, as well as re-using product that did not meet final specifications, has been returned by customers or was used during experimental work to manufacture new product.
- The testing of third party recycled customer oils and hydrocarbons recovered from non-traditional waste materials to replace virgin oils in explosives manufacture.
- Researching and developing explosives which minimise post-blast NOx fumes.

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Sustainability of Products and Services

Suppliers and Raw Materials

◆ Sustainability of Products and Services

- > Suppliers and Raw Materials
- > Product Quality
- > Fertiliser Research and Development
- > Explosives Research and Development
- > Best Practice in Fertiliser Use
- > Minimising the Impacts of Blasting
- > Customer Health and Safety
- > **Customer Support & Engagement**

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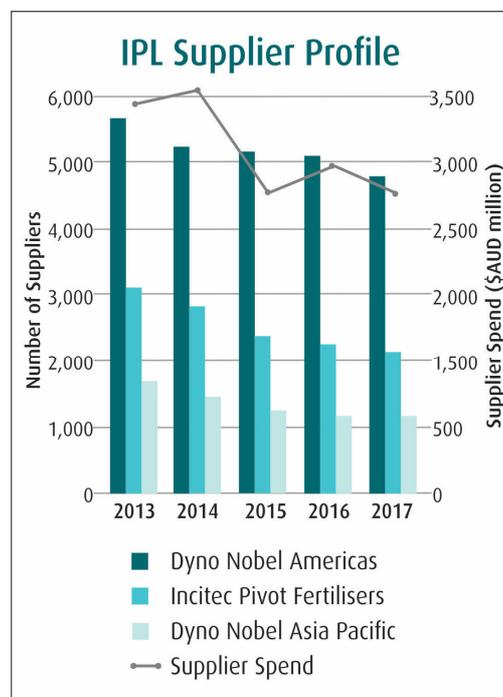
Our Global Procurement team has a number of mechanisms in place to assess the sustainability practices of our suppliers.

IPL has processes in place to assess potential and current contracted suppliers to ensure sustainability risks are well understood and addressed. Potential and current contracted suppliers are assessed using a questionnaire that covers environment, social and governance aspects and the Global Procurement team works with suppliers on gap closing action plans where required. Contracts between IPL and major materials suppliers also contain requirements that are consistent with IPL’s expectations of suppliers’ workplace health, safety and environmental performance. The assessment of suppliers and close out of assigned actions is monitored through regular reporting.

We deliver best cost commercial outcomes aligned with stakeholder requirements through a sustainable, systematic sourcing process and active management of supplier spend.

In 2017, IPL continued to apply BEx methodologies and risk management tools to our sustainable supply chain model, with a particular focus on continued improvement in the management and engagement of existing contracted suppliers. In addition, we began a review of our existing processes against the new Standard for Sustainable Procurement, ISO:20400, which was released in 2017. This standard introduces an internationally agreed standard for sustainable procurement and provides guidance, rather than certification, on integrating sustainability into the procurement process.

100%
OF MAJOR MATERIALS SUPPLIERS SCREENED
* ‘Major Suppliers’ are those which make up the top 20% of our spend



In line with our commitment to develop the sustainability of our supply chain, we continued to work with suppliers, customers and industry bodies on a range of initiatives in 2017 to reduce our impacts and bring positive change. Two of these are outlined in the case studies below.

Case Study: Working with RightShip to reduce, quantify and offset Scope 3 carbon emissions associated with our global shipping

During 2017 we continued to minimise the emissions associated with our global shipping contractors in the performance of their services for us. By using the RightShip [Greenhouse Gas \(GHG\) Emissions Rating](#) to find more efficient shipping vessels, we are using our influence to bring change in the maritime industry by rewarding ship owners that prioritise energy efficiency in line with our values, our commitment to minimise environmental impacts, and our drive to improve our financial performance.

Selecting more efficient ships means less energy used as fuel, lowered fuel costs and reduced Scope 3 carbon emissions.

As part of this engagement with our global shipping suppliers, we were also able to quantify the Scope 3 greenhouse gas emissions associated with our global shipping for the second year. The [Rightship GHG methodology](#) uses the standard European energy efficiency scale and allows emissions to be benchmarked and tracked per journey and over time. The methodology has been verified according to an internationally recognised standard (EN16258:2012). Although present data collection systems do not currently allow us to calculate the amount of emissions avoided by our use of more efficient vessels, we continue to work with our suppliers to be able to calculate this in 2018.

During 2017, the Scope 3 emissions associated with our global shipping were 73,142 tCO₂e. Through an opportunity provided by Rightship and CBL Markets in 2017, we are pleased to report that we were able to offset these emissions through the purchase of verified carbon credits.

Although a small contribution to reducing our total impact, this is the first offset purchase by an Australian company in the global shipping space, and we continue to look for opportunities to work with our suppliers to bring change in new ways.

Case Study: In 2017, IPL continued to work with suppliers, customers and industry bodies to collect and recycle our fertiliser packaging through the Farm Waste Recovery initiative.

In any given year, over 80% of our fertiliser sales are bulk sales which require no packaging. However, approximately 15% of our fertilisers are transported to customers in one tonne FIBCs (Flexible Intermediate Bulk Containers) and 5% is sold in small packs. Prior to 2015, we used reusable FIBCs to reduce our packaging impacts. With the move to single trip plastic packaging, in order to improve customer safety and reduce the risk of potential spills to the environment, we worked with our fertiliser packaging suppliers, plastics reprocessing companies, 23 local councils, the Queensland Department of Environment and Heritage Protection, and 'Farm Waste Recovery', a subsidiary of the Australian agricultural industry body, [AgStewardship](#), to establish the Sugar Cane Fertiliser Bag Recovery Trial. AgStewardship's key objective is to support and develop Australian Agriculture's environmental sustainability and stewardship, while the key objective met by the trial was to develop a sustainable model for the collection of fertiliser bags and the reuse of the recovered materials.

Due to its success, we are continuing to extend the bag collection and recycling program across eastern Australia through providing financial and promotional support to encourage growers to tie the bags in bundles and drop them at local council and private farm collection centres, where they are bailed for transportation to Brisbane for recycling.

Now in its third year, the Farm Waste Recovery program continues to grow, with 41% more plastics collected than last year and 60% more than the pilot year.

384 tonnes of plastics were collected in 2017 for recycling, which is the equivalent of 116,230 fertiliser bags. The success of this program demonstrates the commitment of our customers to a sustainable recycling option for our fertiliser packaging.

Not only was the volume of plastic collected in 2017 enough to make 2,000 park benches, it means tidier farms, less material going into landfill sites and less likelihood of the plastic packaging ending up in the environment.

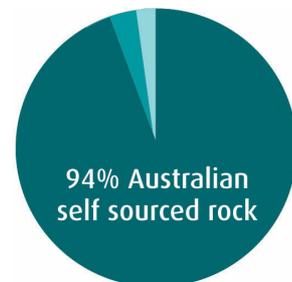


Natural gas accounts for approximately 70–80 percent of the cost of ammonia manufacture.

Energy is an important issue for our business, particularly the supply of natural gas, which is used as both a raw material and an energy source in the [production of ammonia](#). Ammonia is then used to make both our nitrogen fertilisers, such as urea and ammonium phosphates, and our major explosives product, ammonium nitrate, using [chemical reactions](#). In Australia, access to competitively priced gas is a well-documented challenge for the manufacturing industry. IPL believes that it is essential that Australia find a solution that balances the needs of supplying gas to value-adding manufacturing with those of a strong energy export market. We will continue to work with Federal and State governments on this issue.

In the production of both single super-phosphate fertilisers (SSP) and ammonium phosphate fertilisers, we use phosphate rock, a naturally occurring mineral rock.

At our plant at Phosphate Hill in Queensland, Australia we produce ammonium phosphate fertilisers, namely mono-ammonium phosphate (MAP) and di-ammonium phosphate (DAP). This year we sourced 2,340,491 tonnes of phosphate rock for MAP and DAP from our own phosphate rock mine which is adjacent to the plant. We produced approximately 1,000,000 tonnes of ammonium phosphates. At our Portland and Geelong plants in Victoria, Australia we manufacture SSP. The composition of phosphate rock used at these plants varies according to place of origin with varying levels of available phosphorus, cadmium, odour and reactivity, that is, the capability of the rock to react with sulphuric acid and release available phosphorus for plant nutrition.



- Australian IPL Phosphate Rock: 94%
- Asia Pacific Rock: 3%
- Phosphates de Boucraa, SA, Rock: 3%

Our SSP manufacturing plants are configured to produce fertiliser using a blend of phosphate rock from different sources thereby balancing the above factors to produce a product that meets Australia’s regulations with regard to available phosphorus. This year we produced approximately 347,400 tonnes of SSP using a blend of 144,974 tonnes of phosphate rock from a range of sources including Nauru, Vietnam, Togo, Christmas Island, and from our supplier, Phosphates de Boucraa SA, (a wholly owned subsidiary of Officè Cherifien des Phosphates), which included rock sourced from the Non Self Governing Territory of Western Sahara, with the latter comprising approximately half of the rock blend used for SSP, and just 3 percent of our total rock used.

The situation regarding the Kingdom of Morocco and the status of the Non Self Governing Territory of Western Sahara is a complex one, managed under the auspices of the United Nations. We continue to monitor the ongoing developments with regard to the Non Self Governing Territory of Western Sahara. IPL has had regard to the UN Global Compact’s ten principles, OECD Guidelines for Multinational Enterprises, as well as relevant provisions of international law and Australian law. We remain satisfied that we are not in breach of either Australian law or International law, as there has been no determination by the UN or any other competent legal authority that the production and use of phosphate rock from the Non Self Governing Territory of Western Sahara is in violation of any applicable law or the Geneva Convention.

Over many years IPL has engaged in dialogue and enquiry with many parties on this matter. In particular, IPL meets periodically with the Australian Department of Foreign Affairs and Trade, and has had discussions with Office Cherifien des Phosphates, its supplier of phosphate rock from the Non Self Governing Territory of Western Sahara, as well as with Australian ambassadors to the Kingdom of Morocco. IPL will continue to monitor this complex situation.

We use sulphuric acid in the manufacture of single superphosphate, mono-ammonium phosphate, di-ammonium phosphate and granulated ammonium sulphate, and nitric acid in the manufacture of ammonium nitrate.

We produce sulphuric acid at our Mount Isa site in Queensland, Australia. The acid is transferred to our fertiliser manufacturing plant at Phosphate Hill by a purpose built railway and used in the production of DAP and MAP fertilisers. We source additional sulphuric acid, including for our SSP plants in Victoria, Australia, from both domestic and international suppliers. We manufacture the nitric acid we use to make ammonium nitrate explosives at our nitric acid plants in Moranbah, Australia, and St Helens, Louisiana, and Cheyenne in North America.

Sustainability of Products and Services

Product Quality

◆ Sustainability of Products and Services

- > Suppliers and Raw Materials
- > Product Quality
- > Fertiliser Research and Development
- > Explosives Research and Development
- > Best Practice in Fertiliser Use
- > Minimising the Impacts of Blasting
- > Customer Health and Safety
- > Customer Support & Engagement

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IPL is committed to providing quality products and services to the explosives, industrial chemicals and fertilisers sectors.

IPL is a global provider of innovative explosive products, services and solutions under the renowned Dyno Nobel brand. Using BEx principles, product quality is being continuously improved by the detection, analysis and correction of trends during processing to enhance quality and performance. Since 2015, a working partnership between IPL’s explosives research and development laboratories and its manufacturing plants has served to further improve operating procedures, particularly where product analysis is required: see the [Case Study on the Dyno Nobel Emulsion Quality System](#) under Research and Development. Ongoing improvements in both the product formulations and the raw materials sourced have resulted in improved explosives product quality and enhanced performance.

An improved Quality Management System was introduced into our Explosives Initiations Systems manufacturing plants and our Australian bulk emulsion manufacturing plants in 2015 and continues to allow greater tracking and correction of product quality using a range of improved KPIs. These metrics include:

- First Pass Yield, also known as [Throughput Yield](#);
- Process Capability Index, a measure of how closely a process is running to its specification limits, relative to the natural variability of the process;
- Financial cost of non-conforming products; and
- Escape Rate ((Total 'Escaped' Defects / Total Production) x 1,000,000) of units not meeting our high standards of quality control. Our 2017 Escape Rate was 0.30, a better result than our target rate of <1. The Marketing & Technology Ideas & Work Requests Database, which will be upgraded in 2018, provides research and development assistance across the organisation, to facilitate improvements in product quality.

0.000030
% 'IS' UNITS
QUALITY CONTROL
ESCAPE RATE

Our fertiliser [Quality Policy](#) outlines our commitment to providing products and services that meet our customers’ needs. During 2017, the collaboration between the explosives research and development laboratories and manufacturing teams was extended to IPL’s fertiliser production plant at Gibson Island, Queensland.

Fertilisers contain various impurities which are mostly derived from the raw materials used in fertiliser manufacture. We manufacture a wide range of fertilisers in Australia and source products from other Australian suppliers and overseas to offer a comprehensive product range. In Australia, fertilisers must meet certain standards and be labelled in accordance with relevant statutory requirements. We also label our products in accordance with the Fertiliser Australia National Code of Practice for Fertilizer Description and Labelling. We have set specifications for domestically manufactured and imported fertilisers that meet these standards. Routine laboratory analyses are performed to ensure products meet these specifications. Our fertiliser manufacturing is monitored by our own [Quality Control Laboratories](#) and our Ammonia (BIG N), Urea and GranAm products are Quality Assured to AS/NZS ISO9001:2000 standards. All of our product imports are sourced in compliance with the [Fertiliser Australia Purchasing Code of Practice](#). Product Specifications are set that meet statutory limits and market needs. Certificates of Analysis are sought from suppliers. The delivered products are then analysed through our own Quality Control Laboratories to ensure they are within specification, e.g. maximum limits of heavy metal impurities such as cadmium, lead and mercury. We declare the impurity content of fertilisers on the product label.

Through our Fertiliser Customer Complaints Data Base, we track the percentage of our fertiliser product sold (imported or manufactured) which has quality control issues and we seek to improve this KPI each year. In 2017, the percentage of fertiliser sales with quality control issues which were compensated for was just 0.071%. We examine quarterly ‘touchpoint’ reports assessed through ‘Fertshed’, our online customer transactional portal, which also tracks aspects of customer sentiment. This allows management to disseminate the information quickly through internal channels, solving product quality or delivery issues quickly.

0.071
% SALES
FERTILISER
QUALITY CONTROL
ESCAPE RATE

During 2018, improvement initiatives will include a focus to extend IPL’s quality standards throughout the fertiliser distribution business.

This report is published as an interactive online report. Visit the website to access online features at www.incitecpivot.com.au/sustainability

Sustainability of Products and Services

Fertiliser Research and Development

◆ Sustainability of Products and Services

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- > Customer Health and Safety
- > **Customer Support & Engagement**

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The focus of our fertiliser extension and research programs is on the efficient use of existing fertiliser products and the development of enhanced efficiency fertilisers.

Considerable emphasis is placed on applying products in the right place and at the right time. Soil and plant tissue analysis is used to better predict the rates at which fertilisers should be applied, and the use of computer based decision support tools to fine tune fertiliser programs is gaining favour within the industry. Our Nutrient Advantage Laboratory Services is NATA accredited and operates in accordance with the international standard ISO/IEC 17025. Analyses conducted at the lab are certified under the [ASPAC](#) proficiency scheme. Our accreditations are a reliable indicator of the technical competence of a facility to perform specific tests. Nutrient Advantage Laboratory Services delivers consistently high quality analytical results by employing nationally and internationally recognised standardised analytical methods.



We operate one of the largest commercial plant nutrition research and development programs in Australia, with a range of replicated research trials in conjunction with customers, independent organisations and agronomists.

Our long term experiments aim to produce insights that benefit Australian farmers and allow them to [improve fertiliser use efficiency](#) and [adopt sustainable fertiliser practices](#). We are also committed to helping farmers in ways that may assist them to improve productivity and profitability through expanding and developing our range of products and services. The development of new fertilisers is driven by the needs of farmers and is focused on improving nutrient use efficiency, flexibility and environmental performance. We continue to study nitrogen losses from conventional and enhanced efficiency fertilisers to reduce environmental impacts of fertiliser use. IPL offers two enhanced efficiency fertilisers:



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

- [Green Urea NV®](#) is a top dressing fertiliser, recommended where volatilisation losses of ammonia are likely. Green Urea NV products contain urea treated with the urease inhibitor, N-(n-butyl) thiophosphoric triamide (NBPT), and are aimed at delaying hydrolysis of urea into unstable forms that may be lost to the atmosphere, thereby reducing emissions related to fertiliser usage. Green Urea NV can help to protect against volatilisation losses, particularly for:



- intensive dairy and beef pasture production
- irrigated cotton where urea is applied mid-season
- forestry situations
- field crops where urea is applied to bare soil or soon after crop germination.

Key highlights in fertiliser research and development during 2017 included the following:

- A new joint research project with the University of Melbourne into new fertiliser technologies for sustained food security, with further development of prototype products planned for 2018;
- The development of novel fertiliser nutrient delivery systems, including trace element coating of fertilisers on despatch;
- Continued market growth of IPL's enhanced efficiency fertilisers, Entec and Green Urea, which minimise nitrogen losses to the atmosphere as GHG and to waterways; and
- Continued work on the [Australia-China Joint Research Centre of Healthy Soils for Sustainable Food Production and Environmental Quality](#) and [Soil microbial indicators for efficient use of nitrification inhibitors](#) research projects.

Planned for 2018:

- Research and development support for the extension of IPL's quality standards throughout the fertiliser distribution business;
- Development of prototype products as part of the new joint research project with the University of Melbourne as part of the Healthy Soils for Sustainable Food Production and Environmental Quality;
- Research and development support for the implementation of our fertiliser product lifecycle management procedure which will incorporate new product introduction and product deletion;
- Continued work on nutrient use efficiency to support our customers in increasing their yields while reducing their costs and environmental impacts; and
- Rolling out our new Nutrient Advantage sampling app (LABSTREAM) and the upgraded Nutrient Advantage Pro.

Case Study: New fertiliser technologies for sustained food security.

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



As part of the [Australia-China Joint Research Centre of Healthy Soils for Sustainable Food Production and Environmental Quality](#), IPL is partnering with the University of Melbourne and experts in fields including chemistry, chemical engineering and soil science to apply a novel multidisciplinary approach to develop and test new, highly-efficient fertilisers. This is not only critical for addressing the triple challenges, but also for the competitive advantages of the Australian fertiliser industry.

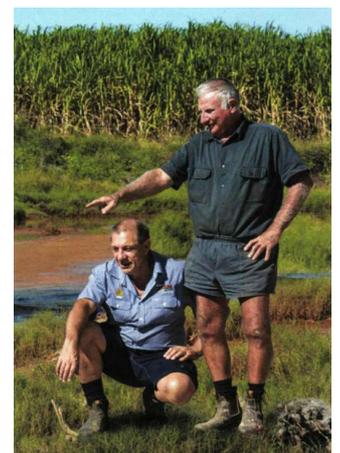
The Centre of Healthy Soils for Sustainable Food Production seeks to investigate the practical challenges of understanding the sustainable limits for the productive use of soil, freshwater, river flows and terrestrial and marine systems better and the reducing impacts on soil, fresh and potable water, urban catchments and marine systems from agricultural systems. A key aim of the Centre is to reduce the footprint of agriculture production systems by retaining nutrients in food, reducing wastes, developing climate resilient systems and remediating soils. As Australia's largest fertiliser manufacturer, IPL is a key partner in the work of the Centre in regard to introducing new technologies and management practices that will improve farming productivity and sustainability, which has broad social implications for national food security and the sustainability of rural communities.

This project aims to produce innovative and cost-effective fertiliser products, which will have a significant impact on the profitability and sustainability of food production. The project provides excellent research training opportunities in a multidisciplinary high-quality environment and will not only advance Australia's reputation as a "clean and green" producer, but also create opportunities for market expansion nationally and internationally.

Case Study: ENTEC use means peace of mind, less nitrogen losses and more gain in cane

In wet or dry seasons, Robert Silvini likes the peace of mind that comes with using ENTEC treated fertilisers in his sugarcane.

"By using urea blends treated with ENTEC, I know the nitrogen is staying on my farm and there's a much lower risk of losing it in runoff after a downpour," he said. "I'm also doing my bit to make sure our industry is protecting the Great Barrier Reef."



Mr Silvini grows cane on a range of soil types between Forrest Beach and Taylors Beach, east of Ingham. He feels more confident that his cane is benefiting from the nitrogen supplied by ENTEC urea blends and there's a much lower risk of nitrogen leaching from the sand hills or floodprone blocks he farms.

"I like the idea that by using urea blends treated with ENTEC, the nitrogen stays in the soil for longer and whether the cane is cut early or late, I am giving the crop the best possible chance to make the most of the nitrogen," Mr Silvini said.

Sibby Di Giacomo, branch manager at Ingham Farm Centre, described ENTEC as a welcome development for the district's cane growers.

"Nitrogen management is a constant challenge for cane growers who have to cope with the most unpredictable weather conditions and with the Reef close by, there's increasing pressure on growers to improve nitrogen use efficiency," he said. "ENTEC keeps nitrogen stable in the soil for longer, giving it more staying power so the crop can use the nitrogen more efficiently. We like ENTEC because it means growers like Robert have a better alternative for enhancing the efficiency of their nitrogen applications while protecting the environment."

On the Kolan River north of Bundaberg, cane farmers Glenn and Susy Robertson are taking steps to change their fertiliser management for the better. In addition to long-standing best management practices like soil testing, trash blanket farming and banding fertiliser into the soil, they have recently started using ENTEC and split fertiliser applications.

They are finding the changes especially good for protecting against leaching losses and keeping nitrogen available to the crop for longer on their lighter soils. The farm has a mix of soil types, with river loam, grey forest country and sandy soils. According to Glenn, the most difficult soils to manage are sands, with leaching a real problem.

"To get yields to lift on the sandy soils normally takes a wet year or a lot of watering, but with that comes leaching," he said. That's why three years ago, they trialled ENTEC with their cane fertiliser blend on half a block of sandy soil. At the same time, they cut the fertiliser rate by about 20%.

"I figured I could cut rates because I would be getting more than 20% extra from the fertiliser if it wasn't leaching away," Glenn said.

The result was a difference of around 35 cm of cane growth and around 15% extra yield, which was enough to see him adopt ENTEC on all the sandy country. "I use it on all the sandy soils now and have started using it in the grey forest country as well with similar results," he said.

"I'm already using less than the local cane board's recommended fertiliser rates and I'll be going further this year," he said. "With ENTEC we're getting better use of the nitrogen, so I don't have to put as much on."



Sustainability of Products and Services

Explosives Research and Development

◆ Sustainability of Products and Services

- > Suppliers and Raw Materials
- > Product Quality
- > Fertiliser Research and Development
- > Explosives Research and Development
- > Best Practice in Fertiliser Use
- > Minimising the Impacts of Blasting
- > Customer Health and Safety
- > **Customer Support & Engagement**

Efforts to mitigate the environmental impacts of our explosives products continue to be focused on using more sustainable input materials and reducing the impacts associated with product use. Highlights during 2017 included:

- Continued development and marketing of explosive products and delivery systems that reduce blast fume emissions and minimise groundwater nitrate leaching, including the commencement of a new joint research project with Murdoch University titled [Low Fume Explosives for Critical Areas](#) (read our case study below);
- Continued testing of recycled, reclaimed and treated oils, hydrocarbons and waxes to supplement the use of virgin fuel sources in emulsion-based explosives;
- Testing of oxidiser, an ingredient of explosives, sourced from internal and customer waste streams;
- Technical support to allow the reformulation and reuse of out-of-specification product in ammonium nitrate emulsion manufacture in Australia, reducing our waste; and
- Collaboration with customers to develop and test new products, processes and methods of product delivery which increase safety and efficiency where explosives are used in hot and reactive ground conditions in North America and in underground applications in Australia.

Planned for 2018:

- Implementation of the improved technology underground product-delivery system;
- Supporting “Value In Use” programs for major customers to reduce the cost of blasting;
- Continued research into post blast fume reduction;
- Development of inhibited products for safer use at higher temperatures in reactive ground through the recently approved Australian Research Council Funded project [Emulsion Explosives for blasting in extreme geothermal environments](#);
- Implementation of the “Differential Energy” product-delivery system for hard rock applications in Australia; and
- Progressing the collaboration between our explosives laboratories and our fertiliser business by developing a technical capability to support manufacture, transport and storage of fertiliser products.

Read more about our work with customers to reduce the environmental and social impacts of using our explosives products at [Minimising the impacts of blasting](#).

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REDUCING NO_x EMISSIONS

We continue to research both the formation of NO_x and methods to reduce NO_x to minimise the impacts of the use of our explosives products on the environment. Having completed one project in 2016 on effects of different additives in reducing NO_x formation, we are now working on the development of low fume explosives for critical areas. This research has resulted in more than six published papers in scientific journals related to reducing NO_x emissions during blasting, and we are using this research to develop improved products and product delivery methods.

BIO FUELS

In North America, we have developed technology that allows the use of bio-fuels and bio-fuel by-products as an alternative to petroleum-derived hydrocarbons for the manufacture of blasting agents and bulk emulsion products. This technology has been enabled in our product line, though take up has been slow due to limited product availability and the relative costs associated with using bio-fuels if the mine site is not located close by. We continue to offer this service to our North American customers and expect greater uptake in the future.

RECYCLING HYDROCARBONS & WASTE MATERIALS

We have also undertaken work with customers and third party suppliers to introduce technologies that use petrochemicals extracted from waste materials as part of the explosive composition. Waste materials such as discarded tyres and waste oil from machinery are ideal candidates for use, particularly at remote mine sites where trucking virgin materials in and waste materials out consumes resources and time. The recycling of a range of ‘out of specification’ (OOS) materials has been developed significantly in 2017, and we will continue to test non-traditional sources for recycling hydrocarbons and other materials in partnership with our customers as the opportunities arise.

Case Study: Research and development underpins the Dyno Nobel Emulsions Quality System (EQS)

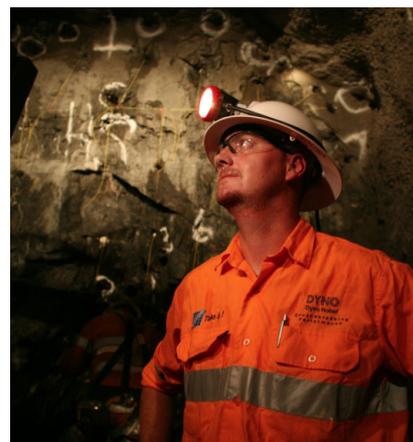
During 2017 we continued to promote the collaboration between our research and development teams and our manufacturing sites to improve the quality of our products. Implementation was completed on the Dyno Nobel Emulsion Quality System, with all actions associated backed up by the science of our research and development teams. These actions included:

- Review of the quality control requirements for emulsion manufacture, transport, storage and use;
- Standardisation of all emulsion plants with regards to processes, instrumentation and calibration; and
- Establishment of the Emulsion Plant Optimisation Team to embed the EQS learnings, to share experiences and knowledge across our sites, and to use BEX processes to continue to improve on all facets of product quality.

Case Study: Dyno Nobel and Murdoch University designing safer, low NOx explosives for mining

A research project to tackle one of the major safety and environmental concerns for the mining industry is the focus of a three year project now underway at Murdoch University with the support of global explosives manufacturer and supplier, Dyno Nobel. This Australian Research Council Linkage project, worth \$570,000 with a further \$390,000 cash and further in kind support from Dyno Nobel Asia Pacific is investigating ways to reduce emissions of NOx gas during blasts, which can arise in certain conditions.

DNAP Research and Development Manager Dr Jeffrey Gore says Dyno Nobel has worked for several years with Professor Dlugogorski from Murdoch University to identify suitable explosive technologies to minimise the generation of post blast fumes for application in soft and wet ground.



“An example is the [Titan 9000xero® product](#) which was developed by the DNAP Explosives R&D team in 2014. To date, in more than 200 blasts, no orange post blast fume, which may contain NOx (nitrogen dioxide), has been observed during use,” Dr Gore said. This project aims to include the development of new blends of no-fume high-bulk energy strength explosives and to develop better methods to sample gases from detonation fumes. The work will be completed by Professor Dlugogorski and Dr Mohammednoor Altarawneh from Murdoch University and Dr Gore.

“Working with Murdoch University allows access to world class researchers and facilities with the right experience that can significantly shorten the development and commercialisation times for new products and technologies,” said Dr Gore.

Dr Gore said the fundamental studies of the research program would be performed at Murdoch University and when the technology was to be scaled up in explosives formulations, the work would be performed at Dyno Nobel’s R&D Centre at Mt Thorley in New South Wales.

List of research organisations funded

Research Organisation	Project Funded	Expected period of Funding
University of Melbourne, Australia	Healthy soils for sustainable food production and environmental quality	2016-2018
University of Melbourne, Australia	Soil microbial indicators for efficient use of nitrification inhibitors	2016-2018
Farmacist / North Qld Dry Tropics, Australia	The effectiveness of enhanced efficiency fertilisers in improving nitrogen use efficiency in cane	2014 onwards
Various major customers under Partner Program, Australia	Various projects ranging from product evaluations through to farming systems trials to reduce nutrient runoff to waterways	2014 onwards
University of Sydney, Australia	Controlling density, viscosity and crystallisation in emulsion explosives to enhance safety and efficiency of blasting operations	2014-2017
University of Sydney, Australia	Emulsion Explosives for Rock Blasting in Extreme Geothermal Environments	2018–2021
Murdoch University, Australia	Low fume explosives for critical areas	2017-2019

Sustainability of Products and Services

Best Practice in Fertiliser Use

◆ Sustainability of Products and Services

- > Suppliers and Raw Materials
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- > Customer Health and Safety
- > **Customer Support & Engagement**

To provide the food our growing global population demands, farmers are seeking to increase production on their land while minimising environmental impacts. We support this effort by working with researchers who seek to grow more food using best management soil practices and new technologies such as enhanced efficiency fertilisers.

Fertilisers are essential to productive farming, allowing farmers to grow more food on a decreased area of arable land. High yields are necessary to support the world's growing population. To optimise food and fibre production per unit of nutrient input and return on investment, attention must be paid to how, when and where fertilisers are applied. It is also important that fertilisers are applied at appropriate rates. Too little, and crop and pasture yields may be sacrificed and produce quality affected. Too much, and the nutrients applied in excess of crop demands may be lost, either to the atmosphere or to waterways. Nutrient enrichment of waterways may stimulate additional weed and algal growth.

To optimise production per unit of nutrient input, it is important that fertilisers are used at appropriate rates and in a responsible manner. To support this, our analytical laboratory (Nutrient Advantage) offers specialist soil, plant and water testing to advisors and farmers. Our [Nutrient Advantage Laboratory Service](#) is NATA accredited, [ASPAC](#) certified and operates in accordance with the international standard ISO/IEC 17025. Testing, together with professional advice from our team of agronomists and our computerised decision-support system, Nutrient Advantage Advice, provides the diagnostic data, best practice information and advice farmers need to choose the right fertilisers and apply them correctly, in order to optimise outcomes from the use of nutrients. Read about how two of our customers reduced their fertiliser use while increasing their yields in 2017 in our case study [ENTEC use means peace of mind, less nitrogen losses and more gain in cane](#).



FERTCARE®



Nutrient Advantage®

Knowledge | Productivity | Responsibility

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Our Nutrient Advantage Advice system is audited by Fertilizer Australia every two years to ensure it complies with their fertiliser management best practice recommendations.

Our fertiliser business has run six Agronomy Community Forums over the last two years. Approximately 250 agronomists (plant and soil advisers) attended the forums to update their knowledge, share ideas and consider the truths and myths associated with the use of fertilisers. Guest speakers included leading agronomists, scientists, researchers and fertiliser advisers.



FERTILIZER AUSTRALIA

Our fertilisers business also hosted 14 Agronomy in Practice courses throughout 2017 across Eastern Australia, training over 85 agronomists.

The Agronomy in Practice course focuses on the practical aspects of making credible fertiliser recommendations to farmers, whether they're involved in cropping, pasture, summer crops, sugar cane or horticulture. The course is aimed at training the next generation of agronomists as well as current advisers who want to enhance their skills in soil and plant nutrition. This year's participants include a cross-section of commercial and private agronomists, and government extension agents. Nutrient Advantage Advice is IPL's Fertcare accredited decision support software system. Fertcare is amongst the leading programs addressing the issue of expanding food production to feed and clothe a growing global community through judicious use of fertiliser, while limiting the potential for off-site nutrient impacts such as eutrophication of waterways. We offer [Nutrient Advantage Training](#), which consists of two courses: the *Agronomy in Practice course*, and the *Nutrient Advantage Advice Software Training Course*. The program has been developed to equip people providing fertiliser services and nutrient advice to farmers with quality assurance to a set of national standards. This year an additional 13 staff received Fertcare A or B training.

Sustainability of Products and Services

Minimising the Impacts of Blasting

◆ Sustainability of Products and Services

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Dyno Nobel's ethos is to work in partnership with our customers, earning us the enviable reputation of being a trusted global partner. We listen to our customers' needs and work with them to tailor an approach in delivering ground breaking solutions.

The use of ammonium nitrate based bulk explosives during blasting activities is well known and widely used throughout the world today. A known risk associated with these products is the generation of excessive nitrogen oxides (NOx). While a number of factors have been identified that can contribute to excessive NOx generation, these contributing factors can change from site to site and blast to blast. As NOx emissions can have significant environmental, health, safety and community impacts, we have been a leader in researching and developing new and improved products and blasting methods to reduce NOx emissions since 2007. In 2014 we launched [Titan 9000xero](#), a reduced energy bulk explosive which contains a high performance emulsion, Titan 9000, blended with a specialised bulk additive formulated for reducing NOx fume. During 2017 we continued to work on the development of a high energy form of the product with large scale field trials being planned for 2018. Titan 9000xero has been tested in Eastern Australian mines in soft, wet tertiary material which is frequently associated with excessive NOx generation during blasting. The results continue to impress with no NOx emissions recorded during trials. Read our Case Study [Controlling Fume Generation with TITAN® 9000xero®](#). The practical innovation of Titan 9000xero is not only reducing NOx fumes, but also making our communities and environments safer. The flexibility to deliver Titan 9000xero in changing ground conditions is critical. This product can be delivered into dry or dewatered blast holes using an auger, or pumped into the bottom of wet blast holes. Titan 9000xero is a water resistant, flexible solution for reducing the risk of excessive NOx generation, solving a challenge many of our clients are facing.

Ground vibration and noise are also impacts that our customers are seeking to reduce, both for the community and for health and safety reasons. We are responding by training our customers in the use of electronic initiation system technology. This technology allows the more accurate detonation of a single blast hole, which in turn allows the use of a computer model to reduce the blast-induced shock waves that are transmitted through the ground. The detonations of each blast hole can be programmed to introduce interference between the shock waves, thus reducing the vibration that is felt. Read our Case Study ['Making Way for Increased Production of Hydroelectric Power in Southern Vermont'](#) as one example of the application of this technology.

During 2017, we continued to grow the use of [Differential Energy](#) to help our customers reduce blast fumes and nitrate leaching to the environment while providing other safety and production benefits. Differential Energy is a proprietary explosives method which allows blasters to accurately vary the density of chemically gassed emulsion as it is being loaded into the blast hole. This allows the operator to load multiple densities of gassed emulsion into the same hole in order to match the unique geological characteristics present in the ground. Because the explosives energy is precisely targeted to match the rock properties, the amount of energy loaded in the top portion of the blast hole can be reduced. This reduces vertical movement at the surface, resulting in less air overpressure and noise from the blast event, as well as improving air quality, mine productivity, rock fragmentation and digability. Read our [Differential Energy Case Study: Trial Leads to Continuous Improvements for Mine](#).

The use of *Differential Energy* has continued to result in reduced NOx emissions, reduced energy use, less noise and ground vibration and increased productivity while reducing overall costs for our mining customers. We aim to introduce this technology to the Australian market in 2018.



REDUCED
NO_x
EMISSIONS

REDUCED
GROUND
VIBRATION
AND NOISE



Sustainability of Products and Services

Customer Health and Safety

◆ Sustainability of Products and Services

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Our Australian fertiliser products comply with Fertilizer Australia Codes of Practice, including the National Code of Practice for Fertilizer Description and Labelling.

This Code of Practice aims to achieve uniform description and labelling of fertilisers across Australia. The label provides advice on the product's nutrient content, and the maximum concentration of impurities that may impact on soil concentrations of the element, plant growth, the health of grazing animals, food safety, and the marketability of farm produce. 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.

In addition to providing information about the technical aspects of the use of our explosives products, our technical support teams 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 complies with the requirements of SafeWork Australia. Our North American labelling meets the requirements of the Globally Harmonised 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.

Assessments for new explosives products

New or modified explosives products are typically developed by our research and development team in conjunction with specific customers. As such, the life cycle stages in which health and safety impacts of those products are assessed are dependent upon the customer's requirements. For explosives products, typically this would be focused on the impact of product use, with the assessment included in trials. Dyno Nobel's product development protocol requires all products to be blasted in pipes at our R&D test sites prior to being fired in the ground. Minimum booster testing and Velocity of Detonation (VoD) measurement provide important information on the performance of the explosive product and blast chamber testing is also conducted at our R&D test facility in the US to verify the gas components generated where required.

Site and distribution security

Many of the explosive and ammonium nitrate products we manufacture, and some of the fertilisers we manufacture and distribute, are classified as security-sensitive and/or dangerous goods and as such, their storage, distribution and sale is regulated by Federal, State and sometimes local governments in North America, Europe, Asia Pacific and Australia. We meet our regulatory compliance and licensing obligations surrounding those products, with internal procedures and training in place for our employees. We keep abreast of regulatory developments in this area and are committed to working with government and key stakeholders to ensure ongoing security. Last year our Dyno Nobel business in North America worked closely with the Institute of Makers of Explosives (IME) on the [Safety and Security Guidelines for Ammonium Nitrate](#), promoting best industry practices for minimising security and safety risk. Our Dyno Nobel business in Asia Pacific is a founding member of the Australian Explosives Industry and Safety Group (AEISG), which is an associate member of the IME. The Group produces Codes of Practice that promote best industry practices regarding safety and security, and has a seat as an NGO at the Committee of Experts on the Transport of Dangerous Goods of the United Nations Economic and Social Council (ECOSOC). Our sites are also managed under our own strict health, safety and environmental management system.

Sustainability of Products and Services

Customer Support and Engagement

◆ Sustainability of Products and Services

- > Suppliers and Raw Materials
- > Product Quality
- > Fertiliser Research and Development
- > Explosives Research and Development
- > Best Practice in Fertiliser Use
- > Minimising the Impacts of Blasting
- > Customer Health and Safety
- > **Customer Support & Engagement**

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IPL fosters strong ongoing relationships with customers through collaborative research and product development, the promotion of best practice use of our products to reduce environmental impacts and increase safety, and through a range of customer support and education technology applications.

IPL conducts ongoing research in the development and testing of our fertiliser and explosives products at customer sites, often in response to specific issues that our customers are facing. Read about our work in 2017 under [Fertiliser Research and Development](#) and [Explosives Research and Development](#). In 2016 we implemented the customer survey software 'Net Promoter Score' across the entire fertiliser customer base to monitor customer sentiment and to engage our customers on how we can serve them better. Through the Dyno Nobel brand, IPL has a concentrated customer base of large corporate customers. Regular meetings are held with all key customers at least quarterly and each customer has a dedicated business relationship manager, enabling regular communications, and a high proportion of our research and development work is in response to requests from customers to tailor solution to their specific on-site needs.

Our Fertiliser business engages with representatives of the agricultural industry online. We operate an online community for agronomic advisors which focuses on providing resources and support, particularly for those in remote locations.

The [Agronomy Community](#) is a specialist nutrition website, bringing together Australia's leading agronomists. It is a comprehensive resource for plant nutrition agronomy and a community where members are invited to participate, interact and network with their peers. The site includes a wealth of plant nutrition information including trials data and reports, videos of fertiliser trials and photo galleries, industry journals, advice and articles. Established in 2010, the Agronomy Community online forum now has more than 800 members around Australia who share the common goal of advancing the science of plant nutrition.

In addition, our analytical plant and soil laboratory, Nutrient Advantage, offers specialist soil, plant and water testing to advisors and farmers. Our team of agronomists provide specialist advice supported by our Nutrient Advantage Advice software. The Nutrient Advantage app will be rolled out in 2018. We also host Agronomy Community Forums and Agronomy in Practice courses. Read about these under [Best Practise in Fertiliser Use](#).



Fertshed is our interactive online customer software portal. Since 2014 Fertshed has delivered greater efficiency, transparency and enablement for our customers, agents and dealers.

Along with 24 hour ordering capability, Fertshed allows the management of contacts and orders from start to finish, including the ordering of blends from bulk purchases, download of at-the-market prices, confirming availability of stock at the time of order and other benefits.



In North America, our Dyno Nobel business operates a Quarry Academy training centre for stone quarry operators.



The curriculum includes drilling, loading, crushing and screening training, as well as lectures from industry experts in subjects such as the benefits of the chemical crushing of stone, versus traditional mechanical crushing. These benefits include lower costs, less electricity usage and improved environmental and social impacts e.g. lower dust production. This year more than 130 operators attended the Academy. In Australia, our teams run NOx forums for customers on-site to educate them about the factors associated with NOx production and how to minimise it. Additionally, courses in optimum blasting techniques for both surface mining and another for underground mining are offered to customers.

In 2017, Dyno Nobel released a new and improved version of its Explosives Engineers' Mobile App. The app equips users with the full range of blasting tools, with worldwide accessibility - even in remote locations.

Our Explosives Engineers' Mobile Phone App shares information with our customers about the most sustainable ways to utilise our products. The app equips current and potential customers with a full range of blasting tools that help optimise the blasting experience in the field. It also provides an electronic method to research product information, reducing the amount of documentation printed in the field.



The Explosives Engineers' Mobile App includes seven critical blasting calculators, access to our technical library and a comprehensive set of Dyno Nobel product information, including product specs and application uses. Users can also receive real-time updates that feature Dyno Nobel news, recent innovations and new videos. Moreover, worldwide remote accessibility to the app caters to the fact that remote mine sites often experience difficulties connecting to mobile services.



◆ Managing Our Workforce

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What is BEx?

This report is published as an interactive online report. Visit the website to access online features at www.incitecpivot.com.au/sustainability

IPL endeavours to be a business where Company Values guide behaviours in the workplace and where employees have the flexibility and tools to learn what they need to execute business objectives within a multi-geography, multi-cultural organisation. Attracting, developing and maintaining a highly talented and diverse workforce is key to living our Value of Respect, Recognise & Reward and vital to achieving our business objectives.

During 2016, we responded to significant cyclical and structural change in our markets, including explosives, industrial chemicals and fertilisers, by reviewing our organisational structure and employee roles to ensure alignment with these markets. In 2017, we continued to involve and support our employees in the design and implementation of change and to achieve sustainable benefits through our diversity policies and practices and our improved learning systems.

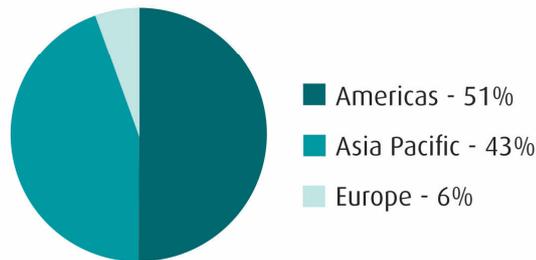
Our Human Capital strategy contributes to the achievement of our cultural, social and business goals. BEx, our Business System for continuous and focused improvement, is integral to our strategy because core BEx methodologies engage and involve our people, from the 'shop-floor' to the executive level, to improve their skills and continuously advance all facets of our operations. We believe that taking an integrated approach will lead to constructive and sustainable outcomes for our people and other key stakeholders.

Key highlights during 2017 included:

- Company-wide employee participation in BEx projects, which contributed to the BEx Organisation Focused Improvement (OFI) program. The OFI program has not only generated sustainable financial benefits, but provided role-based development and innovation opportunities for employees;
- Training of leaders in coaching and associated skills to further develop BEx leadership capability;
- Maintaining a 2 percent target of Indigenous employees across IPL's Australian businesses;
- New Enterprise Bargaining Agreements, which meet market demands and provide sustainable pay outcomes, within the Australian explosives and manufacturing businesses;
- Completion of the implementation of the global Learning Business System, which began in 2016, to provide company wide standards for learning and development;
- Completion of the implementation of the Learning Management System in North America which enables compliance, regulatory and mandatory technical training of employees and contractors;
- Establishment of a target to increase the percentage of women in our workforce by 10% year-on-year and to achieve a minimum participation rate of 25% women by 30 September 2022;
- The completion of our second report to Reconciliation Australia on the progress of the IPL Australian Indigenous Reconciliation Action Plan. The Plan will be reviewed in 2019;
- Piloting of the Recruit for Fit program in Australia for our hiring leaders, which includes specific elements of diversity and inclusion aimed at removing unconscious bias.
- Continuation of the My Potential development program for our high potential female talent, which was run across Australia and the Americas in 2017, along with a co-program for the managers of participants.
- Participation in the Everyday Sexism Project, as part of the Chief Executive Officer's and Company's commitment to the Victorian Male Champions of Change.
- The use of Social Return on Investment Metrics (SROI) to quantify and communicate some of our social contributions

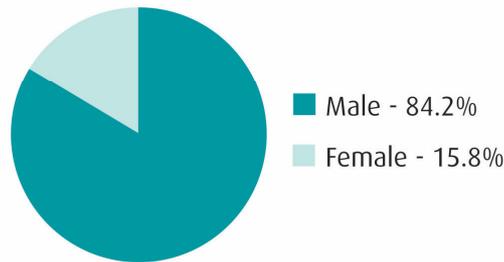
Our workforce as at 30th September 2017

Total workforce by geographic location (excluding contractors)



4570
EMPLOYEES
(excluding contractors)
GROUP-WIDE

Total workforce by gender (excluding contractors)



Gender Diversity (% of women) as at September 30

	2014	2015	2016	2017
Board level	25.0%	28.6%	28.6%	25.0%
Executive	12.5%	12.5%	33.3%	33.3%
Senior Management	12.2%	13.1%	16.9%	18.8%
Management	15.6%	18.5%	11.5%	11.3%
Global	15.7%	15.8%	15.8%	15.8%

Key Challenges & Opportunities Strategic Priorities

- Ensuring that we continuously have skilled, diverse and ready talent to meet current and future demands in changing markets;
- Being an inclusive and accessible organisation with a range of strategies to attract and retain a diverse workforce;
- Continuing to build the pipeline of talent throughout the organisation, particularly for critical roles, to ensure business continuity; and
- Engaging our geographically and culturally diverse workforce on a site-by-site basis

- **Capability** - Building our people's BEx capability through the use of BEx methods and tools
- **Diversity** - Increasing our diversity profile at all levels of IPL, including a targeted 10% increase in women globally in 2018
- **Human Capital Systems** - Completion of software updates required for the roll out of the IPL global Learning Management System (LMS) in Australia
- **Workplace Experience** - Seeking feedback from our employees via a Company-wide employee engagement survey

Managing our Workforce

Attracting and Developing Talent

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What is BEx?

We recognise the importance of having a talented and committed workforce at all levels. Succession planning and building talent pipelines are key strategies to ensuring long term business success.

Succession planning is conducted annually, identifying short, medium and long term candidates for key roles. The identification process uses both a set of criteria and data from the annual performance management process. Action plans are implemented, with the aim of developing those capabilities required for future advancement.

With a focus on creating an inclusive organisational culture for all, in 2017, the Company successfully piloted the Recruit for Fit program in Australia.

The Recruit for Fit program is a 'just in time training' for hiring leaders which is designed to challenge and develop their thinking regarding the recruitment of people who fit our organisational culture. The program includes specific elements of diversity and inclusion and aims at removing unconscious bias in the minds of our hiring leaders. The Recruit for Fit program supports IPL in embedding diversity and inclusion into our standard business processes and will continue to be rolled out across the business in 2018.

Targeted training programs are also in place to nurture the next generation of talent, including our Australian Manufacturing Graduate Program and our Dyno Nobel Vacation Program, which is actively supporting Austmine's Women In STEM: METS Career Pathway Program in 2018.

Working and being mentored at an IPL manufacturing site is the ultimate opportunity to gain exposure to both the mining and manufacturing industries as an engineer. During our two-year program, graduates receive hands-on engineering experience through a combination of site-based rotations and a formal development plan. Graduates focus on their technical, professional and personal development and are supported by an experienced manager for the duration of the program. The learning structure is tailored to their discipline and individual needs. In addition, graduates are mentored by leaders in the company.

In August 2017, IPL Australian Manufacturing Program graduate Hannah Campbell was awarded the prestigious 2017 Industry Awards Young Professional of the year at the Australian Mines and Metals Association (AMMA) Industry Awards. While we retained all of our current graduates during the 2016 restructure necessitated by our challenging markets, we did not recruit any new graduates in 2017. However, graduates recruited in 2016 completed their second year of the program throughout 2017, and we plan to reintroduce recruitment for this program in 2018. The success of the Australian Manufacturing Graduate Program is demonstrated by the employment outcomes: we are pleased to have offered roles within IPL to 100% of the graduates who have completed the program in the last 5 years.

Austmine is the leading industry body in Australia for the mining equipment, technology & services (METS) sector and is actively supporting the promotion of women in science, technology, engineering and maths (STEM). IPL is proud to be supporting Austmine's 'Women in STEM: METS Career Pathway Program', designed to improve gender diversity across the sector. Our Dyno Nobel Metals Team will be welcoming three female STEM students who will work with the team from December to February 2018 as part the Dyno Nobel Vacation Program. This program is designed to nurture the next generation of talent by providing a learning platform to develop the technical experts and future leaders of tomorrow whilst preparing them for a career within the sector.

Case Study: IPL Graduate Hannah Campbell Recognised with 2017 National Australian Mines and Metal Association (AMMA) Award

Process engineer Hannah Campbell's first job out of the IPL Australian Manufacturing Graduate Program was to prepare IPL's Moranbah ammonium nitrate plant for a 42-day maintenance shutdown involving up to 700 workers on site. It was one of the largest turnarounds in IPL's Australian manufacturing history,

with 94,000 man hours, 695 work packs, and a high-risk and complex scope of work. The 24-year-old rose to the challenge and was recently named as the 2017 AMMA Industry Awards Young Professional. The Young Professional Award recognises an individual who, in a short period of time, has had a positive and noticeable impact on workforce-related processes or practices within their organisation.

"Hannah is one of many up-and-coming young professionals in the industry who are showing great leadership and innovation," Australian Mines and Metals Association (AMMA) director industry services Tara Diamond said. "To take part in a history-making turnaround at IPL shows that Hannah is going to be a real leader in the industry for years to come. She is lighting the path for other young female professionals to make their way in the resources industry."

As an IPL Australian Manufacturing Graduate, Ms Campbell spent her first year of the program at IPL's Gibson Island manufacturing site in Brisbane, and her second at Moranbah before being tasked with the turnaround planning. "I would say it was a very, very steep learning curve for me," she said. "I was very lucky that I had some very strong mentors and people who gave me on-the-job training to coach me through the process. It was definitely a challenge."

This award is a fantastic achievement for Hannah so early in her career, and is a great example of our people achieving outstanding business performance.

"I would say it was a very, very steep learning curve for me"

Hannah Campbell



Case Study: IPL's Dyno Nobel Vacation Program



New challenges demand new ideas, and as an organisation we continue to look for the next generation of leaders and innovators of our industry. We seek people who will think beyond possibility to deliver ideas and answers that are essential to our customers in the blasting services industry.

This is why the Dyno Nobel Vacation Program exists. Providing a great opportunity to tap into the minds of the next generation of visionaries, it also provides an opportunity for them to apply their minds to the challenges in the STEM field. This year, the program of work chosen by the Dyno Nobel Metals underground team for the Vacation Students involves applying their skills to a fresh concept for the next generation customer operated emulsion pumping system - 'DynoMiner'. After experiencing the underground mining environment at Jundee and consulting with our customers on their needs, the students will be set the task of reviewing the existing designs down to the last component and engaging industry specialists to produce an underground mining industry leading emulsion delivery system. Kim Le, Mechanical Engineering (Curtin University, WA), Ye Mon Thant, Engineering Science (University of WA) and Arnadya Pudhiastono, Chemical Engineering (Curtin University, WA), will join us in December 2017.

In our Americas business, the explosives manufacturing plant in Cheyenne, Wyoming will recommence a four year partnership with Laramie County Community College in 2018.

Established in 2012, our Cheyenne Dyno Nobel manufacturing site began a partnership with LCCC to assist the college in their efforts to secure Workforce Development Training Funds to support individuals enrolling in a Process Technology training program at the college. Recognising a need for well-trained individuals in all areas of our industry, most particularly with strong workplace safety knowledge, the team at Cheyenne guaranteed interviews to program graduates through to the end of 2016, when our Company restructured. In 2018 we are reintroducing the partnership by working closely with LCCC to customize and introduce a Basics of Manufacturing course curriculum. In addition, the site and LCCC are discussing opportunities to work together with Climb Wyoming to provide work and training opportunities for women in the community. Climb Wyoming is a non-profit organisation whose mission is to help low-income single mothers discover self-sufficiency through career training and placement.

Our Asia Pacific business is also associated with several industry and related organisations, including the SkillsDMC, TAFE Queensland South West, the Queensland Resource Council, Australian Mines and Metals Association, Diversity Council Australia, National Association of Women in Operations, and Reconciliation Australia.

Our performance management framework aims for consistency, fairness, equity and reward for performance.

It is a process for establishing a shared understanding of 'what' is to be achieved and 'how' it is to be achieved. It is a collaborative process, and requires both manager and employee to participate equally. Online tools provide a consistent process and a central repository for performance management information. All employees, except those whose collective bargaining agreement precludes them, are required to set goals for their performance and development each year and have a formal performance review at six monthly intervals. This year, the percentage of employees across the Group who participated in the performance review process increased to 59%. This was a targeted increase in response to lower figures in 2016, which were primarily due to the impact of the 2016 restructure.

In order to ensure individual goals and performance are linked to the key objectives and performance of the business, our Short Term Incentive (STI) plan includes safety goals in support of our Zero Harm strategy and explicit links between STI payments and the performance of the business. During 2017, employees were assessed against their individual goals, leadership competencies and, for the first time, against our [Company Values](#). Our leadership competencies are a set of expected capabilities against which our leaders were measured for development and performance as part of the performance management cycle. These competencies incorporate the leadership skills required to deliver BEx, such as holding people accountable, driving improvement and the capacity to influence and develop others. The introduction of our Values into the performance management cycle enables a better understanding of the behaviours that are expected for each core value and allows our employees to make our Values a part of everyday work and management, enhancing IPL's performance and culture.

% of employees by gender receiving regular career development & performance reviews:

	2016	2017
Total	55.6%	59.0%
% of males	51.2%	56.2%
% of females	75.5%	74.0%

% of 2017 employees by gender and employee category who received regular career development & performance reviews

	Male	Female
Board	100.0%	100.0%
Executive	100.0%	100.0%
Management*	99.0%	100.0%
Non-management	53.7%	72.8%
Total	56.2%	74.0%

* Includes senior management and management

Workforce Planning

Last year, our workforce planning was focused on shaping our organisation and our workforce to meet customer requirements, whilst addressing challenging market conditions. We restructured our operations into three components: two customer facing businesses in Asia Pacific and the Americas, which share a common nitrogen core through an upstream business - Global Manufacturing. All businesses now serve three sectors: Explosives, Industrial Chemicals, and Fertilisers. This has resulted in a more fully integrated and streamlined organisation which is well placed to build sustainable value into the future. During 2017, we continued to train employees, team leaders and middle managers to learn new skills and work practises to meet the challenges arising from the restructure and the changes associated with its implementation. Read about how we are building our employees capabilities in ['Learning and Development'](#).

We also continue to remain competitive in recruiting talented people for key positions which may arise through:

- Continuing to provide market competitive remuneration, alongside merit-based performance management;
- Our social media strategy, which aims to raise our profile amongst prospective new candidates;
- Continued use of innovative sourcing strategies to identify talent for future critical talent groups; and
- Consistently reviewing our recruitment process to ensure it is best practice and builds diversity through leveraging new forms of assessment and new technology where appropriate. During 2017, new strategies included the Fit for Hire program and an IPL page on the [DCC: Working for Women](#) website. DCC is the only online job platform where employers are pre-screened to ensure they support women's careers.

Our Social Return on Investment Metrics

More than ever, people want to know how the work they are doing on a daily basis is contributing to the world. At IPL, we recognise that in addition to creating economic value, the social value that we create as a company is also important, particularly when attracting new talent and engaging our employees. IPL engaged a third party to assist us in the development of Social Return on Investment (SROI) metrics to help us quantify and communicate the value of our social contributions relative to our financial investment in areas such as food production, safety training and employment, and to relate these to the UN Sustainable Development Goals. The metrics will become part of the IPL employee value proposition going forward, as they will assist us in communicating to our prospective and current employees how their work at IPL contributes value to the communities in which we operate. See [Social Return on Investment](#) under Community.

Managing Our Workforce

Engaging Our Employees

◆ Material issue

◆ Managing Our Workforce

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Along with our customers, employees are IPL’s most influential and important stakeholders. Studies have shown that highly engaged employees perform up to 20% better and are 87% less likely to leave an organisation than employees with low levels of engagement. Engaging our employees is therefore essential in order to meet our customer needs, live our company Values and achieve our business objectives.

Business Excellence (BEx) is IPL’s Business System through which a culture of continuous improvement is being built. BEx engages our employees by involving them directly in the design of streamlined processes and activities, and in the implementation and sharing of ‘best practice’ in their own work areas. Through BEx Leadership, employees at all levels of our business are encouraged to think laterally, to share their experiences and ideas, and to participate in implementing improvements, resulting in outcomes which are highly valued by both the business and our employees. Employee recognition is fostered through activities such as our quarterly MD&CEO Values Award program, introduced in January 2014. The program

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What is BEx?



This report is published as an interactive online report. Visit the website to access online features at www.incitecpivot.com.au/sustainability

recognises employees from all parts of our global operations for demonstrating positive cultural behaviours, aligned with our Values and business priorities. Over the year, 122 Value Awards were awarded globally to individual employees and teams through our recognition programs.

A leader who encourages and nurtures a coaching culture also reaps the benefits of a skilled, enthusiastic and committed workforce by unlocking each person's potential to maximise their own performance. Read about how our BEx aligned Leader as Coach program also increases the long term value and returns associated with training under [Learning and Development](#).

We undertake benchmarking of employee turnover rates for the Global Manufacturing and Oil & Gas/Mining/Energy industries, as well as by Executive job level and by total workforce.

We use voluntary turnover rates as one indicator of employee engagement and, along with exit interview data, use this information to inform our talent and engagement practices. Turnover rates within the company have been tallied at a Group level, with the exception of our Papua New Guinea, Hong Kong and Mexico operations. Statistics from these regions have not been included when determining the average turnover rates provided in the table. Voluntary employee turnover rates have fallen in the under 30 age group, and remained consistent in most geographical regions with the exception of Europe. This is likely to be due to current labour market trends and the impact of the restructure of our organisation and workforce during 2016.

Total number and rate of new employee hires for the full year	2016 9.8%	2017 14.8%
Employee voluntary turnover rates for the full year (%)		
Total:	7.3%	8.4%
By age group:		
All employees under 30	12.3%	9.4%
All employees 30-50	6.0%	7.4%
All employees 50+	7.4%	7.4%
By gender:		
Male	7.0%	8.0%
Female	10.2%	10.6%
By region:		
Americas (incl US, Canada & Chile)	8.5%	10.9%
Asia Pacific (incl Australia & Indonesia)	7.5%	7.3%
Europe (incl Turkey)	0.0%	7.9%
Percentage of employees covered by collective bargaining agreements	14.4%	21.1%

Organisational climate surveys are well established as an effective tool for human resources management. Both surveys and spot 'health checks' have been conducted across various IPL sites since 2015, and are primarily used to assess, track and inform future strategies regarding employee mindset and management of change. The surveys also allowed our employees to engage with us on a number of other critical factors including teamwork, communication, effectiveness of leadership and employee satisfaction. In response to the survey results, changes have been made to facilitate increased two way communication throughout the company, including an increase in the frequency and reach of business strategy & performance updates and more regular collaboration forums.

During 2018 all IPL Group employees will have the opportunity to participate in an employee engagement survey relating to improving our workplaces and our employees' everyday experience of work at IPL. Using a world class model, the results of the engagement survey will be benchmarked against global data and will be used to develop high level strategy planning, team based reports and individual action plans for leaders.

We also developed [social return on investment \(SROI\) metrics](#) last year, which are helping us communicate to our employees about our Values and our social contribution to the global communities in which we operate. Communicating these values to employees has been shown to increase both employee engagement and retention. Read more about our SROI metrics under [Attracting and Developing Talent](#).

Managing Our Workforce

Learning and Development

◆ Material issue

◆ Managing Our Workforce

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We aim to develop leaders with the flexible skills and relevant competencies needed to rapidly adapt to changing financial and market situations and to provide our leaders with the skills and experience needed to run a large, multi-geography, multi-cultural organisation.

This year we continued to focus on:

- Leader as Coach: continuing to develop leaders with the appropriate skills and competencies to deliver continuous improvement.
- Fostering an environment where, through continuous learning, employees have the flexibility, tools and freedom to realise our business objectives.
- Delivery of our current suite of learning solutions, aimed at building BEx capability across our entire Value Chain, including technical LEAN capabilities, communications, problem solving, leadership and coaching.

Fostering learning culture is critical to our ongoing success. The IPL Learning Business System (LBS) embodies how we operationalise Business Excellence in a learning and capability building context.

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What is BEx?

Our Learning Business System is a Group wide framework of standards, processes and tools for learning. Completed during 2017, the system is a direct enabler of our Human Capital strategies and a review will be conducted in 2018 to ensure its effectiveness. The key benefits and aims of the LBS are shown in the graphic to the right.

The IPL Learning Business System guiding principles outline a clear role for leaders as coach. Through coaching, employees are engaged in individual and team based BEx problem solving practices to bring continuous improvement across many areas of our global business. This remained a strong focus in 2017 and has led to a substantial lift in employee engagement across our sites.

Key benefits

Key aims



The results have included the elimination of waste streams, improved safety, more efficient use of raw materials and monetary savings as our employees ‘Challenge and Improve the Status Quo’, ‘Care for the Community and our Environment’ and ‘Treat the Business as our own’. Engaging our employees to live out our Company Values through BEx leadership, coaching and focused improvement projects often results in meeting the ‘triple bottom line’ of sustainability by providing economic, social and environmental benefits and outcomes from a single project.

Coaching is a powerful learning experience for both the coach and coachee, as both participants gain a greater understanding and knowledge of themselves and their potential. Leadership as coaching also maximises the effectiveness of training events, because it assists in creating an environment of continuous learning.



During 2017 we continued to build coaching capability in our line leaders through our BEX aligned Leader as Coach program. Using the GROW model of coaching, this program provides our line leaders with both the interpersonal and 'how to' skills required to coach on the job, coach BEX methodologies to new starters and build capability in their teams using a coaching leadership style. The design of this program is based on a 70:20:10 learning approach, where most of our learning happens on the job (70%), through conversations (20%) and through formal learning (10%).

During 2017 we completed the roll out of an updated global Learning Management System (LMS) technology platform in the Americas. Supported by the standards, methodologies and tools which are part of our underlying Learning Business System, it provides standard processes for delivering, recording, and reporting learning that is aimed at creating and sustaining competence in our people.

The updated LMS, integrated with our core systems, is being progressively implemented with roll out in Australia once foundational software systems are updated in 2018, and will ultimately deliver a single global source of safety and regulatory compliance training for all employees and contractors. It will be accessible 24/7 and will provide a new level of accountability for both web and instructor based compliance training. Initially offering over 400 compliance courses, an additional 64 courses were added in 2017, and additional courses will be added regularly. The platform facilitates the ongoing development of our employees and provides consistency in training as well as rapid deployment of new training and Zero Harm initiatives, including process improvements and Process Safety Management. The system allows us to:

- deliver critical compliance and safety web-based training for all;
- align regulatory training to specific job codes and functions, ensuring our people get the right training in the right time frames;
- provide a single source of training records and content for our instructors;
- track training completions against requirements to provide visibility of competence of employees and contractors;
- run reports of training completions on demand;
- run reports of present and future training deficits;
- allow our managers to schedule employees on training courses; and
- provide our employees and contractors with a "one stop shop" where they are able to view, track and complete all compliance training assigned to them.

To ensure complete compliance and adoption as we roll out the system, we are continuing to track key scorecard metrics quarterly, which include:

% EMPLOYEES COMPLIANT	HIGHEST & LOWEST SCORING TEAMS, PLANTS & SITES
% LEADERS WITH COMPLIANT EMPLOYEES	% EMPLOYEES DUE FOR RE-CERTIFICATION IN THE NEXT 30 DAYS

Managing Our Workforce

Diversity

◆ Material issue

◆ Managing Our Workforce

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What is BEx?

At IPL, we are committed to being an inclusive and accessible organisation through the development of a culture that embraces diversity. We believe that making opportunities for the contributions of a diverse workforce has benefits for our employees, our communities and our business, and can help us to grow, remain relevant and be competitive.

Our employees range in age and gender and come from many different cultures, traditions and lifestyles. It is the diversity of our people that makes our company a great place to work. IPL benefits from this variety of perspectives and ideas, experience and capabilities, all of which lead to a greater opportunity for innovation and a better workplace. Diversity at IPL is led by the Executive Team, championed by our MD & CEO, and supported by the Company's Human Resources function. The Board maintains oversight and responsibility for the Diversity Policy and the development and implementation by management of the Diversity strategy. The Diversity strategy includes three principles which were established to provide guidance for the Company's Diversity strategy and its relevant policies, programs and initiatives:

- Respecting our differences
- Shaping our future organisation
- Building a flexible organisation

Respecting our differences is critical to ensuring that our work places will be free of discrimination and harassment and inclusive of all people, regardless of differences. Shaping our future organisation means IPL is continually developing a more diverse workforce, creating business sustainability and strength. We also offer workplace flexibility by providing opportunities for working arrangements that accommodate the needs of the Company while balancing the diverse needs of its people at different stages in their careers and lives.

In order to progress our Diversity Strategy, this year the following initiatives were undertaken:

- Our Workplace Gender Equality Agency Report was endorsed as fully compliant by the WGEA, as in previous years. The purpose of the report is to provide an analysis of gender pay equity for IPL's Australian operations, allowing us to implement strategies to address any identified issues. For more detail, see our Corporate Governance Statement;
- We continued the Manager co-program for the leaders of female employees who are involved in the 'My Potential' Program. This co-program is specifically designed to enable leaders to support and coach our female employees;
- We used key talent management metrics and our Talent and Succession Planning process to improve gender diversity within our Senior Management Roles by 2 percent for the second year in a row.
- Our 2016 intake of IPL Australian Manufacturing Graduates completed their second year. Participants included an Indigenous Australian and 100% were female;
- We launched the IPL Family and Domestic Violence policy to provide support for our employees in 2016. In 2017 this was cascaded through the business from leaders and was promoted during [White Ribbon Day](#) in 2017;
- We joined [Diversity City Careers](#). DCC is the only online job platform where employer's policies and procedures are pre-screened to ensure they support women's careers;

Organisational Tier	employees %	
Gender diversity at IPL		
	2016	2017
Male: All	84.2	84.2
Female: All	15.8	15.8
Male: Board level	71.4	75.0
Female: Board level	28.6	25.0
Male: Executive team level	66.7	66.7
Female: Executive team level	33.3	33.3
Male: Management level*	86.1	85.3
Female: Management level*	13.9	14.7
Male: All other levels	84.4	84.2
Female: All other levels	15.6	15.8

Age diversity at IPL*		
All employees under 30	14.9	14.2
All employees 30-50	53.8	54.3
All employees 50+	31.9	31.4

* 8 employees did not disclose their age

Salary Equity at IPL	Male to female ratio	
Executive level	1:0.85	1:0.85
Management level	1:0.92	1:0.96
All other levels	1:3.96	1:0.99

* Includes senior management and management

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- We joined [Diversity City Careers](#). DCC is the only online job platform where employer's policies and procedures are pre-screened to ensure they support women's careers;
- We continued to facilitate Indigenous cultural awareness for our employees through online learning, direct engagement with traditional owners, cultural surveys and participation in events such as [Reconciliation Week](#) and [NAIDOC Week](#). In addition, we worked in partnership with Traditional Indigenous Custodians to produce a cultural induction video for our largest operational site at Phosphate Hill;
- We continued our involvement with organisations such as the National Association of Women (NAWO), the Australian Women in Resources Alliance (AWRA) and Diversity Council Australia (DCA), which provide IPL with support and resources to attract, retain and develop female talent specific to our industry, and forged a new collaboration with Austmine to support the '[Women in STEM: METS Career Pathway Program](#)'; and
- As part of the Chief Executive Officer's and IPL's commitment to the Victorian Male Champions of Change, we participated in the [Everyday Sexism Project](#).

IPL's My Potential program is run across Australia and the Americas. My Potential has been specifically developed to support female employees to progress and thrive in their careers.

Using our Talent Metrics, we track the progress of female employees who participate in the program and have seen an increase in both promotions and role enhancement in comparison to non-participants. Considering the positive results and overwhelmingly positive feedback from the program participants, this program has continued throughout 2017 for women across the middle and senior management levels within the Company. We recognise that female employees can face actual and perceived challenges to career development and progression which are not immediately apparent to their leaders. Last year we piloted a co-program for leaders who manage high potential female employees involved in the My Potential program. The co-program helps leaders to gain insights and coaching skills to assist their female team members in overcoming some of the challenges they face, and aims to build our leaders' capability to support female employees within their teams and across IPL.

Case Study: IPL's Michelle Keegan wins Exceptional Women in Resources Award

In July 2017, the Minerals Council of Australia (MCA) held its first Victorian Women in Resources Awards to recognise the exceptional achievement of women in the Victorian resources sector across all occupations. IPL's Vice President of Strategy and Nitrogen, Dyno Nobel Asia Pacific, Michelle Keegan was awarded Victoria's Exceptional Woman in Resources Award in recognition of her overall career success, long-time commitment to community service and her work to increase gender diversity in the minerals industry globally for over 15 years. This prestigious award specifically recognises leadership skills, resilience, methods of overcoming barriers and seeking out and accepting new responsibilities and challenges. Since starting out as a mining engineer in Kalgoorlie, Perth, Michelle has worked in senior roles in value chain, commercial management, and business strategy and innovation technology, which have exposed her to both technical and non-technical roles in the industry.



Along with three other Victorian winners of separate awards, Michelle then went on to represent Victoria as a finalist in the Women in Resources National Awards (WIRNA) in Tasmania in August where she was awarded a special Industry Achievement Award in recognition for her career success, work to advance gender diversity in four jurisdictions and long-standing commitment to community service. During this second awards ceremony Michelle was described as an active participant in many aspects of the industry, including as an active member of various women in mining groups around the country. She was recognised for breaking down barriers throughout her career, and being a great role model and quiet achiever who gets things done in her own way. Congratulations on your fantastic achievements, Michelle!

Australian Indigenous Reconciliation Action Plan (RAP)

In 2015 the IPL Board approved our first Reconciliation Action Plan, which was also endorsed by [Reconciliation Australia](#). The RAP was launched in 2016 and provides us with a framework to outline our vision for reconciliation, and it is also a public commitment to implementing and measuring practical actions that build respectful relationships and create opportunities for Australian Aboriginal and Torres Strait Islander peoples. The RAP will be reviewed in 2019.

IPL identified five organisational program investment areas and committed to undertaking a significant body of work across these areas, developing the Australian Indigenous Employment Strategy and the Australian Indigenous Relations Policy. Each business and operational Group is responsible for identifying local engagement and employment needs and opportunities and working towards improving engagement and employment outcomes for First Australian Peoples as set out under the five program investment areas.

As an organisation, we are committed to working in partnership with Aboriginal and Torres Strait Islander peoples and communities, other key stakeholders and government agencies to deliver the goals set out in this plan. We aim to find the most innovative and efficient solutions to our challenges by exploring opportunities within the industry, partnering in other stakeholder initiatives, seeking out opportunities across both the private and public sector.

By working collaboratively and implementing the initiatives outlined in the RAP, IPL will continue to work towards reconciliation in Australia.

Case Study: IPL's Davina Shearer wins Indigenous Advocacy Award

At the [Queensland Resources Council \(QRC\) fourth annual Indigenous Awards](#) in August 2017, IPL was recognised in two of the six categories for their significant contribution to increasing Indigenous participation in the sector. IPL's Davina Shearer, Diversity and Inclusion Adviser, shared the Indigenous Advocacy Award for exceptional leadership in indigenous inclusion with Glencore's William Blackley.

Congratulations to Davina and William on their prestigious achievements!



IPL also nominated [EJ Garrett from Jetzak Media](#) who won the Exceptional Indigenous Business category for his work in producing an induction video to enhance employees understanding of the cultural significance of IPL's Phosphate Hill site. Jetzak Media involved both Yulluna Traditional Owners and employees at the site to collaborative in the making of the video.

Managing Our Workforce

Australian Indigenous Employment

◆ Material issue

◆ Managing Our Workforce

- > Attracting and Developing Talent
- > Engaging Our Employees
- > Learning and Development
- > Diversity
- > Australian Indigenous Employment

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What is BEx?

In line with our commitment to Value People – Respect, Recognise & Reward, IPL’s Indigenous Employment Program aims at increasing the number of opportunities for Indigenous Australians by providing access to employment, education and training as well as focusing on developing cultural understanding and respect within its workforce.

The program is also a key component of IPL’s approach to Diversity and is continuing to help our business to develop stronger relationships with the community. This year we increased our Indigenous Employment across the Australian businesses to 2.3 percent, maintaining our targeted 2 percent minimum. Initiatives undertaken as part of our Indigenous Employment Strategy are described below.

The IPL Australian Indigenous Relations Policy

The IPL Australian Indigenous Relations Policy was developed in 2013 to provide guidance to the organisation as to how to strategically increase engagement opportunities with Indigenous Communities so as to benefit Indigenous Australians as well as IPL. The Policy provides a valuable opportunity for IPL to work in genuine partnership with Indigenous Australians and live the IPL Values of “Care for the Community and our Environment” and “Challenge and Improve the Status Quo”.

IPL is taking a best practice approach to improving Indigenous engagement outcomes. Our approach is based on:

- research into organisations who have been working successfully in the area of Indigenous engagement for many years
- an examination of our organisation’s current cultural capability
- working with Indigenous Communities to clarify expectations of IPL
- recognition that reconciliation and self-determination are integral to improving engagement outcomes

As a product of these learnings and to achieve Policy objectives, IPL has identified five organisational policy investment areas and is committed to changing the culture around diversity, policies and practices of IPL where required. These five areas are:

1. Leadership
2. Community Development and Engagement
3. Education and Training
4. Indigenous Employment Program
5. Business Development (including sub-contract opportunities)

Cultural Capability Training

The IPL online Cultural Capability Program for Australian leaders, management and staff was developed in consultation with the Indigenous Community and Traditional Owners of the land in which we operate. Implemented across our Australian businesses in 2015, the program encourages participants to recognise that different cultures have different ways of valuing, seeing, doing and believing, and that to work successfully with people from other cultures we need to know which characteristics are critical.

During 2017 we continued to facilitate Indigenous cultural awareness for our employees through direct engagement with traditional owners, participation in events such as [Reconciliation Week](#) and [NAIDOC Week](#), and through online learning. A highlight was working in partnership with Traditional Indigenous Custodians to produce a cultural induction video for employees and contractors at our largest operational site at Phosphate Hill. The induction video enhances employees understanding of the cultural significance of IPL’s Phosphate Hill site, the rich history and meaning of the site to the Yulluna Traditional Owners of the region, and the importance of preserving the heritage sites of the Yulluna people for all Australians. Peter Ware, Vice President – IPL Australian Manufacturing, nominated Jetzak Media, who produced the video, to be considered in the ‘Exceptional Indigenous Business’ category at the Queensland Resources Council fourth annual Indigenous Awards, and we are delighted that Jetzak Media were successful in winning the award.

In nominating Jetzak Media, Peter stated “Apart from the great quality final product that we received, the process and professional approach taken by Jetzak Media significantly contributed to a positive outcome for both our Traditional Owners and the employees who participated in the video’s development.”



Peter Ware (Vice President – IPL Australian Manufacturing) with Davina Shearer (IPL Diversity and Inclusion Advisor) and E.J. Garrett (Jetzak Media) at the Queensland Resources Council fourth annual Indigenous Awards.

Indigenous Recruitment and Retention

Traditional HR systems and processes can present barriers for Indigenous people seeking to enter the mainstream workforce. We are working on improving Indigenous employment outcomes and have developed a range of systems to assist Indigenous people overcome these barriers. These include:

- Using local Indigenous networks to identify potential Indigenous candidates
- Focusing more on face-to-face communications
- Ensuring recruitment turnaround times are culturally appropriate
- Developing a work readiness program

Indigenous employees also face particular challenges in balancing work, cultural and family commitments and making the transition to a new organisational and cultural environment. For employees of fly-in, fly-out operations, an added pressure is the need to spend extended periods away from home. Strategies for increasing retention include:

- Provision of cultural awareness training for both Indigenous and non-Indigenous employees;
- Provision of ongoing mentoring and support via our ‘buddy system’ was extended beyond our Mt Isa and Pilbara Operations this year to all Australian sites with Indigenous employees;
- Provision of career development opportunities;
- Provision of family support; and
- Addressing racism in the workforce.

During 2017, we continued to implement new and innovative initiatives to help increase our Indigenous employee numbers and increase cultural capability for all our employees. With a focus on creating an inclusive organisational culture for all, we successfully piloted the Recruit for Fit program in Australia. The program, designed as a ‘just in time training’ for hiring leaders, challenges their thinking about how they can help us hire people that fit our organisational culture. The program includes elements of diversity and inclusion aimed at increasing indigenous recruitment and removing unconscious bias. The development of the Recruit for Fit program, and it’s continued roll out in 2018, is an example of IPL’s strategy to drive our diversity and inclusion efforts by embedding them into standard processes with the business. We will also work with the Queensland Resource Council members during 2018 to create a greater sharing of information and data to support the broader industry Indigenous workforce.