



Sustainability Report 2016

Sustainability Report 2016

- > [About this Report](#)
- > [A Message from the CEO](#)
- > [Sustainability Scorecard](#)
- > [Benchmarking our Performance](#)
- > [Our Approach](#)
- > [Our Targets](#)
- > [How we operate](#)
- > [About the Data](#)
- > [GRI Index](#)
- > [Memberships of Associations](#)
- > [Glossary](#)

 [Print PDF](#)

- > [Our Focus Areas](#)
 - > [Workplace Health & Safety](#)
 - > [Community](#)
 - > [Environment](#)
 - > [Products and Services](#)
 - > [Managing Our Workforce](#)

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 seven 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 third year that sustainability performance data has been included in the [Annual Report](#), thereby providing a full 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 2016, so that stakeholders can better understand our social, environmental and safety focus and performance. The Report covers the 12 month period from 1 October 2015 to 30 September 2016, the Company’s financial year. Our last Sustainability Report was also published online in April 2016 for the 2015 financial year. 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 2016. This period is referred to throughout the Report as ‘2016’. Together, this Report, the [2016 Sustainability Summary](#) and the [2016 Annual Report](#) provide the full account of IPL’s performance for the period.

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.

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.

A Message from the Managing Director & CEO

Sustainability Report 2016

- > About this Report
- > **A Message from the CEO**
- > Sustainability Scorecard
- > Benchmarking our Performance
- > Our Approach
- > Our Targets
- > How we operate
- > About the Data
- > GRI Index
- > Memberships of Associations
- > Glossary

 [Print PDF](#)

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*



During 2016 we 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 I am pleased to report that we achieved outstanding results, not only in respect of our performance across key safety metrics such as injury severity and lost time injury frequency, where we recorded significant reductions from 2015, but also in relation to our progress in embedding the core safety processes which have set the foundation for driving a step change in process safety management. These results are the product of the five year Global HSE Strategy which we adopted in 2012. Through this strategy, we have embedded a culture of safety leadership across all our plants and operations, led by the members of my Executive Team who, collectively, spent over 100 days on site safety visits during the year. More specifically, the manufacturing leadership team spent almost 400 days on site safety visits over the past 12 months.

Equally significant was the safety performance during the construction of our world scale ammonia plant in Louisiana, USA over the last three years. The plant, which has a nameplate capacity of 800,000 metric tonnes per annum, was completed on time, under budget and – more importantly – with zero lost time injuries and a total project TRIFR of 0.31. 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, recapturing steam for reuse and reducing NOx emissions by up to 98% through the use of SCR abatement technology.

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. Energy, particularly gas used as a feedstock for our manufacturing operations, is a major cost in our business and we continue to manage our gas supply. In 2013, we launched the IPL Business System for continuous and focussed improvement – BEx, leveraging LEAN manufacturing principles and building a strong culture of continuous improvement. In early 2016, we accelerated our response to the current challenging market outlook by launching a global Organisation Focussed Improvement (OFI) program, leveraging our BEx methodology to further improve operating efficiencies and reduce costs. We also invested in several key projects in 2016 to reduce emissions.

Diversity also remains a key focus. My role as a ‘Male Champion of Change’ is reflective of my belief that IPL will become a better company as we build diversity. Women now make up one third of our Executive Team, however, we still have a long way to go with women comprising only 16% of our employees globally. In the year ahead, IPL will continue to focus on ensuring that diversity considerations are built into our ongoing activities such that diversity becomes inherent to the way we do business.

For the third 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.

James Fazzino
Managing Director & CEO

Sustainability Scorecard

Sustainability Report 2016

- > About this Report
- > A Message from the CEO
- > **Sustainability Scorecard**
- > Benchmarking our Performance
- > Our Approach
- > Our Targets
- > How we operate
- > About the Data
- > GRI Index
- > Memberships of Associations
- > Glossary

 [Print PDF](#)

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

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

Indicator	Unit of measure	2014	2015	2016
Environment				
Emissions				
Direct GHG emissions (Scope 1)	Million tonnes CO2e	2.2	2.4	2.4
Indirect GHG emissions (Scope 2)	Million tonnes CO2e	0.4	0.4	0.3
Total GHG emissions ¹	Million tonnes CO2e	2.6	2.8	2.7
Proportion of energy derived from fossil fuels ²	%	95% approx	95% approx	95% approx
Energy				
Global direct energy consumption	GJ	41,248,949	44,070,102	44,972,204
Water				
Gross water use	GL	43.4	41.6 ³	43.8
Water discharge	GL	32.5	32.1	35.6
Net water use	GL	11.8	10.5 ³	9.3
Waste				
Global solid waste	kt	13.5	7.6	8.3
Australian solid waste	kt	4.4	4.1	3.5
Global solid chemical waste	kt	1,470.4	2,177.5	2,134.3
Australian solid chemical waste	kt	1,470.2	2,177.3	2,133.2
Global liquid waste	ML	23.5	15.2	14.3
Australian liquid waste	ML	12.9	13.7	9.7
Environmental compliance				
Environmental non-compliance incidents (category 2+) ⁴		16	51	12
Loss of containment incidents (category 2+) ⁴		239	200	191
Environmental Incident Frequency Rate (EIFR) ⁵			0.75	0.32
Safety		2014	2015	2016
Total recordable Injury Frequency Rate (TRIFR)		0.97	0.67	0.76
Fatalities		0	1	0
People		2014	2015	2016
Total workforce (excluding contractors)				
Americas		4,977	4,721	4,584
Asia Pacific		2,584	2,440	2,283
Europe		2,124	2,072	2,089
		257	209	212
Gender—Diversity (% of women)				
Board ⁶		25%	28.6%	28.6%
Executive		12.5%	12.5%	33.3%
Senior Management ⁷		12.2%	15.3%	16.9%
Management ⁸		15.6%	16.3%	11.5%
Global		15.7%	15.8%	15.8%

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

Indicator	Unit of measure	2014	2015	2016
Direct Economic Value Generated and Distributed				
A. Direct economic value generated				
Revenues	\$Mil	3,400.2	3,683.9	3,390.4
B. Economic value distributed				
Operating costs, including payments to suppliers, non-strategic investments and royalties		3,570.0	3,630.9	3,531.4
Operating costs, including payments to suppliers, non-strategic investments and royalties		2,670.9	2,609.6	2,465.3
Employee wages and benefits: total monetary outflows for employees (current payments, not future commitments)		583.2	633.7	636.7
Payment to providers of capital, including dividends and interest		152.0	194.5	194.0
Government taxes (income tax, payroll tax, Australian goods and services, fringe benefits taxes and Australian fuel tax credits)		163.6	192.7	235.1
Voluntary community investments (including donations of cash, in-kind support and employee time)		0.3	0.4	0.3
C. Economic value retained (A-B)				
		(169.8)	53.0	(141.0)
Government Taxes paid per country (\$Mil)				
Australia		109.60	101.4	152.1
United States		20.51	40.2	34.8
Mexico		6.81	9.5	7.3
Canada		21.32	35.0	29.7
Chile		0.63	1.1	2.5
Hong Kong		0.00	0.0	0.0
Turkey		2.01	0.0	5.8
Indonesia		1.23	3.6	1.6
Papua New Guinea		1.64	1.9	1.3
Tonnes of Product Supplied (million tonnes)				
Fertiliser		2.0	1.9	1.8
Explosives		1.6	1.4	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 both environmental non-compliance and internal non-conformance incidents.

5. 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.

6. J Fazzino, Managing Director & CEO is classified as a Board member.

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

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

Benchmarking Our Performance

Sustainability Report 2016

- > About this Report
- > A Message from the CEO
- > Sustainability Scorecard
- > **Benchmarking our Performance**
- > Our Approach
- > Our Targets
- > How we operate
- > About the Data
- > GRI Index
- > Memberships of Associations
- > Glossary

 Print PDF

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

To create real value for all our stakeholders, we are committed to improving the quality and quantity of 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 sustainability 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
Economic	61	61	59	70	65	67	74
Environmental	51	50	51	59	60	51	60
Social	37	45	63	68	67	63	65
Total for IPL	49	51	58	66	64	60	67
Chemicals sector average	55	57	55	52	55	58	56

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 2016. 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 2014, 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 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

Sustainability Report 2016

- > About this Report
- > A Message from the CEO
- > Sustainability Scorecard
- > Benchmarking our Performance
- > **Our Approach**
- > Our Targets
- > How we operate
- > About the Data
- > GRI Index
- > Memberships of Associations
- > Glossary

 [Print PDF](#)

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

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 2016 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 [2016 CDP](#) response. 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 focussed 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

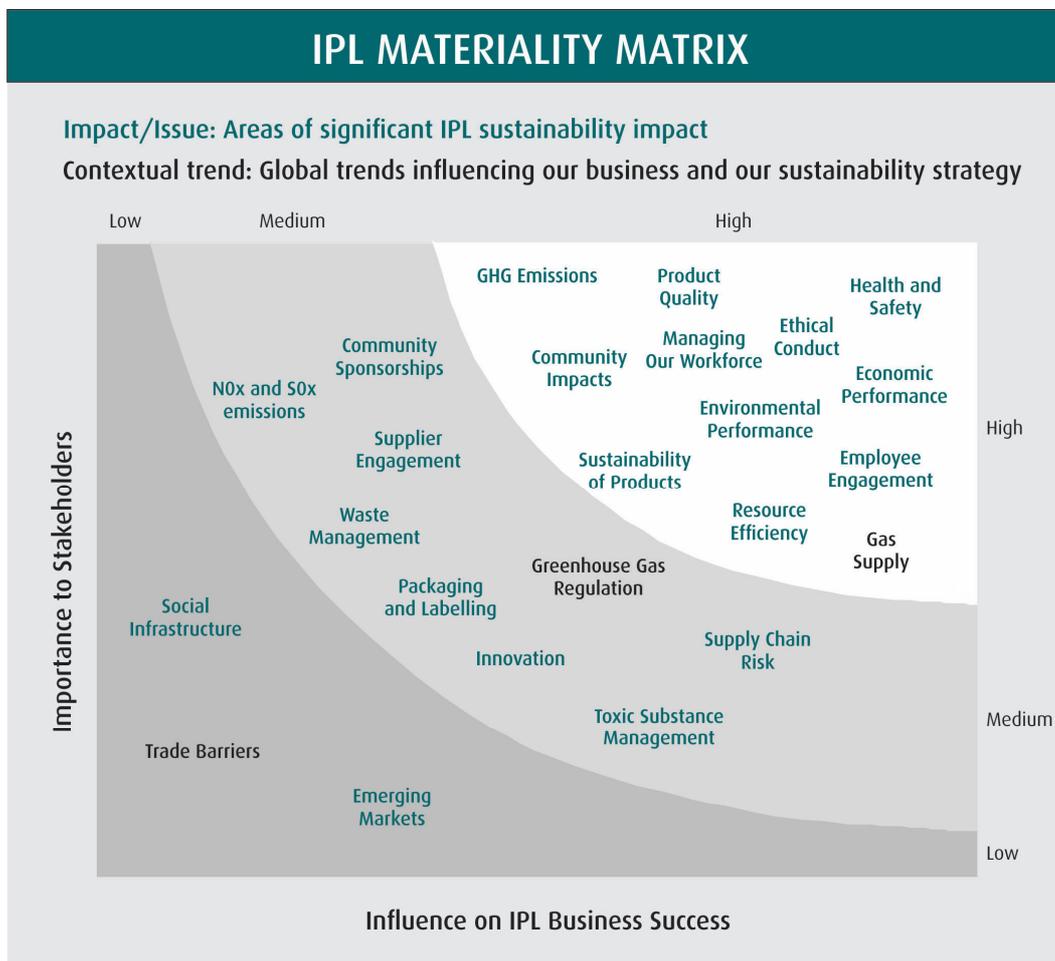
To be the best in our markets, delivering Zero Harm and outstanding business performance through our people, our culture and our customer focus.

VALUES



Content Selection Process

IPL recognises the need to provide focussed 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 is shown below as a materiality matrix. ‘Economic Performance’ and ‘Gas Supply’ are addressed in the [IPL 2016 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 and to gather feedback on our approach.

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 was also determined and is included in the [Materiality and GRI Aspects](#) table. This online report, together with our [Annual Report](#) and our four page [Sustainability Summary](#) (collectively, our public reporting), address each of these material issues to a G4 ‘Core’ level. Content is also included for 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; career and development opportunities; remuneration; performance management; senior leadership/corporate strategy	Direct engagement at IPL sites; 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; exit interviews
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 both products and company	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, as well as farmers who receive our products directly	Cost; efficiency/yield improvement; access to agronomy expertise and customer soils/plant testing; sustainable performance of products	Direct engagement with customers; engagement during collaborative tailoring of product use through Nutrient Advantage laboratory soil and plant testing; Nutrient Advantage Advice interactive software; collaborative product research and development; online 'Farmer Community' and 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 and environmental 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	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 – all stakeholders we deal with globally
Economic Performance	-	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 and 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
Products and Services Quality	-	-	-		Within IPL Outside IPL – our customers globally
Gas Supply	-	-	-		Within IPL. This issue is addressed on Page 20 of the 2016 IPL Annual Report under 'Risk'

Our Targets

Sustainability Report 2016

- > About this Report
- > A Message from the CEO
- > Sustainability Scorecard
- > Benchmarking our Performance
- > Our Approach
- > **Our Targets**
- > How we operate
- > About the Data
- > GRI Index
- > Memberships of Associations
- > Glossary

 [Print PDF](#)

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

	2016 Target	2016 Performance	2017 Targets
◆ Workplace Health and Safety			
	TRIFR <1	 TRIFR 0.76	TRIFR <1 in 2017
◆ Environmental Compliance			
	EIFR <1	 EIFR 0.32	EIFR <1 in 2017
◆ Ethical Conduct			
Review IPL Code of Ethics and associated training materials during 2016		Code of Ethics and Code of Conduct for Directors & Senior Management replaced with new Code of Conduct	Face to face training on Sanctions and Anti-Bribery in 2017
NOx emissions			
Installation of SCR NOx abatement unit for Louisiana, Missouri, USA		SCR unit installation almost complete as at Sept 30 2016. Estimated impact: 90% reduction in NOx at the site after installation	30% reduction in NOx emissions per tonne nitric acid produced globally in 2017
◆ GHG Emissions			
Target set for 2017		Target on track Waggaman, Louisiana ammonia plant completed on time and on budget	3% global reduction tCO2e/t nitric acid produced by 2017 2% global reduction tCO2e/t ammonia produced by 2017
◆ Water			
10% reduction in total water use at our Phosphate Hill manufacturing site		10.6% reduction in total water use at Phosphate Hill	5% further reduction in total water use at Phosphate Hill in 2017
◆ Managing Our Workforce			
Increase in women holding management and senior management positions		10% increase in women in senior management; 29% decrease in women in management positions.	Year-on-year percentage increase in women holding management and senior management positions
◆ Product Quality			
<0.1% fertiliser sales compensation due to quality issues		0.042% fertiliser sales compensation due to quality Issues	<0.1% fertiliser sales compensation due to quality issues in 2017
Global Explosives Initiating Systems Manufacturing quality 'Escape Rate' < 1		0.46 Escape Rate in 2016	Global Explosives Initiating Systems Manufacturing quality 'Escape Rate' < 1 in 2017
◆ Community Impacts			
100% compliance with required Community Safety Communications		Target Achieved	100% compliance with required Community Safety Communications in 2017

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How We Operate

◆ Material issue

Sustainability Report 2016

- > About this Report
- > A Message from the CEO
- > Sustainability Scorecard
- > Benchmarking our Performance
- > Our Approach
- > Our Targets
- > **How we operate**
- > About the Data
- > GRI Index
- > Memberships of Associations
- > Glossary

📄 Print PDF

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

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 direct reports form the Executive Team. This team also has a sub-committee called the Zero Harm Council.

During 2016, responsibility for sustainability strategy and governance resided with the Executive Team, advised by the Corporate Sustainability Team 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

During 2016, IPL's Code of Ethics and Code of Conduct for Directors and Senior Management were reviewed and replaced with a single [Code of Conduct](#) which better reflects the Company's current policies and business practices. The Code of Conduct 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

[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

During 2016, the [IPL Anti-Bribery and Improper Payments Policy](#) was updated to reflect recent changes to Australian law and we conducted face-to-face training in anti-bribery and competition laws and company requirements for applicable employees. Mandatory Fraud & Corruption Awareness Training was also conducted for all employees through IPL's Learning and Development Platform. The 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.

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.

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. The diversity of our people contributes to making 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

To assist in building our diverse community, we established a Diversity Council last year, which reports to the Managing Director & CEO, James Fazzino. The Council provides leadership and support in implementing the company's Diversity Policy and Strategy. 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, we standardised the Whistleblower process globally last year. "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.

About The Data

Sustainability Report 2016

- > About this Report
- > A Message from the CEO
- > Sustainability Scorecard
- > Benchmarking our Performance
- > Our Approach
- > Our Targets
- > How we operate
- > [About the Data](#)
- > GRI Index
- > Memberships of Associations
- > Glossary

 [Print PDF](#)

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

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 statistics in our reporting are for global sites wholly owned by IPL during that period. 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 [2016 Annual Report](#).

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

The financial year ending 30 September 2016 is indicated as '2016' in our reporting.

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

During 2016 we restructured our global operations into two businesses, Asia Pacific and Americas, which share a common nitrogen manufacturing core. Both businesses serve three sectors: Explosives, Industrial Chemicals, and Fertilisers. During the reporting period, the workforce was reduced by 137 employees. See [Managing Our Workforce](#) for details.

Restatements

IPL's 2015 gross water use has been restated from 40,172 ML to 41,591 ML due to improvements in cooling water data collection systems. For the same reason, net global water use for 2015 has also been restated from 9,477 ML to 10,477 ML.

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 provided a [limited assurance statement](#) on our Australian greenhouse gas emissions, energy consumption and production figures for the period 1 July 2015 to 30 June 2016. (Deloitte are independent auditors who also audit our financial statements. See pages 43 and 82-83 of the [2016 IPL Annual Report](#).)

GRI Index

Legend:

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

Sustainability Report 2016

- > About this Report
- > A Message from the CEO
- > Sustainability Scorecard
- > Benchmarking our Performance
- > Our Approach
- > Our Targets
- > How we operate
- > About the Data
- > **GRI Index**
- > Memberships of Associations
- > Glossary

 Print PDF

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

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 2016 Annual Report , page 84.	
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 2016 Sustainability Scorecard . Other data required for this disclosure is reported in the 2016 IPL Annual Report .	
G4-10	For employees by location, contract type, employment status and gender, see People and Culture . 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 review of data will be undertaken during 2017 to ascertain whether reporting is possible in future. 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 in 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 20 of the 2016 IPL Annual Report .	
G4-13	In May 2016, we announced our strategic response to the unprecedented challenges facing the markets in which we operate, including the restructure of our downstream operations into two businesses. See our 2016 Annual Report , page 6. There have been no significant changes during the reporting period to our supply chain .	
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 Industry Associations .	
❖ Identified Material Aspects and Boundaries		
G4-17	For entities included in IPL's financial reporting, see the 2016 IPL Annual Report , page 51. All subsidiaries have been included in this report as they are controlled by the group. Subsidiaries are listed in Note 14 on page 66 of the 2016 IPL Annual Report .	
G4-18	For report content selection process and report boundaries, see Our Approach and About This Report respectively.	
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.	

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❖ 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 '2016' is used throughout this report to refer to the reporting period, which is the IPL financial year, ending 30 September 2016.	
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 2016 Annual Report , the IPL 2016 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 2016 Annual Report .	
G4-EC1	For direct economic value generated and distributed see our Scorecard . For external assurance statement see the IPL 2016 Annual Report , pages 82-83.	Yes
G4-EC2	For financial implications and other risks and opportunities for the organisation's activities due to climate change, see IPL 2016 Annual Report , page 21, and the IPL 2016 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 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 2016 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-EN29 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 [2016 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 2016 Corporate Governance Statement](#) on page 3.

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 [Raw Materials and Suppliers](#).

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 [Raw Materials and Suppliers](#).

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](#).

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 2016

- > About this Report
- > A Message from the CEO
- > Sustainability Scorecard
- > Benchmarking our Performance
- > Our Approach
- > Our Targets
- > How we operate
- > About the Data
- > GRI Index
- > **Memberships of Associations**
- > Glossary

 Print PDF

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

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.

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Glossary

Sustainability Report 2016

- > About this Report
- > A Message from the CEO
- > Sustainability Scorecard
- > Benchmarking our Performance
- > Our Approach
- > Our Targets
- > How we operate
- > About the Data
- > GRI Index
- > Memberships of Associations
- > **Glossary**

 Print PDF

- > Our Focus Areas
 - > *Workplace Health & Safety*
 - > *Community*
 - > *Environment*
 - > *Products and Services*
 - > *Managing Our Workforce*

BEx	Business Excellence (BEx) is the IPL Business System for continuous and focussed 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, and including its two business units
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. This was achieved in 2014 and our global TRIFR was 0.76 in 2016.

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 for 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.



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.

[Link:](#)
What is BEx?

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).

18%
INCREASE IN 'HAZARD' & 'NEAR MISS' REPORTING

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.

69.5%
REDUCTION
IN EMPLOYEE
LOST DAY
SEVERITY RATE

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 injuries, environmental, process safety or quality related – we gain valuable insights into the safety hazards faced by our people and we communicate these learning 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.



Plant

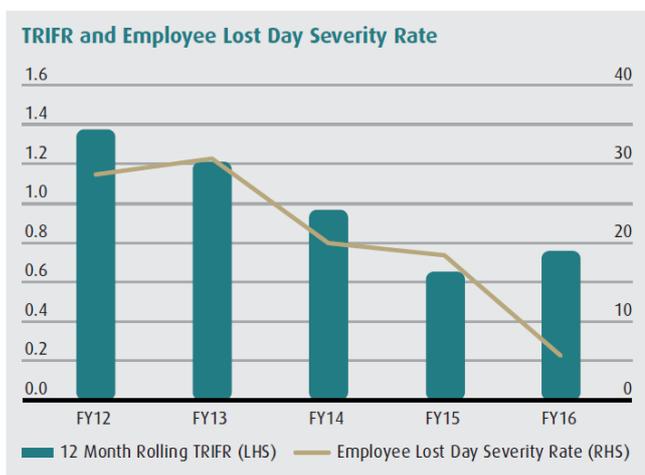
[Link:](#)
[What is BEx?](#)

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. Our global Process Safety Standard is supported by an internal awareness campaign and our major sites participate in an internal benchmarking exercise against our Global HSEC Standards. We are pleased to report that the total number of Tier 1 process safety incidents in 2016 decreased by 52% from last year.

52%
REDUCTION
IN TIER 1
PROCESS SAFETY
INCIDENTS

Our 2016 Performance

- Achievement of a global TRIFR of 0.76, with 83 percent of sites recordable injury free.
- Improved safety metrics globally, including a 69.5 percent reduction in employee lost day severity rate, a 60.7 percent reduction in Lost Time Injury Frequency Rate (LTIFR) and a 51.7 percent reduction in Tier 1 process safety incidents.
- Development and release of global Risk Assessment and Bow Tie Analysis procedures.
- Development of a global approach to Permit to Work and Job Step Analysis and rollout of associated training materials.
- Specific and comprehensive Executive Team Zero Harm goals including undertaking safety-focused site walks during site visits and taking part in, and reviewing, risk assessments and incident investigations.
- Executive Team member led management reviews of High Potential Incidents and global communication of the resulting learnings.
- The continued roll out of the Safety Partners training program across the business divisions.
- Completion of over 400 assessments of the Annual Hygiene Monitoring Program. Additional monitoring included random testing at our manufacturing facility at Gibson Island, Australia, which was used to develop new and updated site maps for emissions and noise.
- Establishment of a global Alcohol and Other Drugs (AOD) policy and an Australia wide procedure for testing supported by a single national vendor.
- IPL funded influenza vaccinations were offered to all Australian employees.



45%
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.

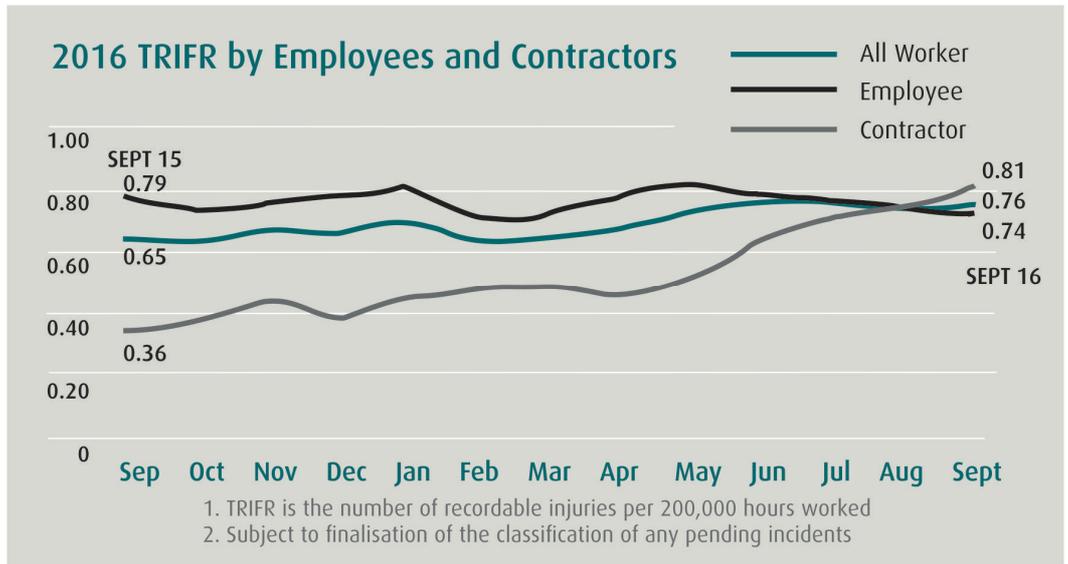
- Continued improvement of risk management across all parts of the business, including the quality of risk register content.
- Implementation of a critical control management process. Critical controls are those which relate directly to Fatal Risks.
- Embedding of the standardised Permit to Work and Job Step Analysis processes at our manufacturing sites and the roll out of these across our explosives and fertiliser operations.
- Development of an improved and standardised Management of Change process.
- Launch of an online training package for employees on Alcohol and Other Drugs (AOD).
- Maintaining a global TRIFR of less than 1 and the gains made in decreasing injury severity rate.

Strategic Priorities in 2017

The following initiatives will be priorities in maintaining IPL's Zero Harm focus in 2017:

- Executive Team member leadership and coaching of employees during site visits to review site risk registers and investigate high potential incidents to identify root causes.

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



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

2016 Global TRIFR by Gender	
Male	0.81
Female	0.34

83%
 SITES RECORDABLE
**INJURY
 FREE**

Workplace Health and Safety

Health and Wellbeing

Workplace Health and Safety

◆ Our Safety Performance

> Health and Wellbeing

 Print PDF



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, this program provides up to five confidential specialist counselling sessions each year, available 24 hours per day. It offers support for work and personal issues either face-to-face, over the telephone, in writing, via the internet or by video conferencing. The counselling 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.

**How to ask
R U OK?**
[Learn here](#)

Across our Australian sites, we promoted R U OK? Day on September 8 2016, 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. 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. Online modules on stress and resilience are open to employees to participate in across the Group and 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 2016 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. Follow up to monitor progress and ensure treatment is also part of the program and, 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 started a Transportation Drivers' Council to promote weekly wellness activities and increase awareness of the importance of health and wellness. The Drivers' Council is producing a quarterly newsletter to inform drivers of current issues and plans, and the newsletter includes a page on wellness. The issue of fatigue in the workplace and importance of sleep for good mental and physical health continues to be a focus. The US sites will provide information for employees on the importance of sleep for good health and safety.

Health assessments

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 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.

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 gymnasium, 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 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.

Reducing sprains, strains and manual handling injuries

During 2016 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 USA and Canada alone, 197 early reports of pain and possible strains allowed them to be treated with first aid, successfully reducing the severity of work related injuries. Refresher training was provided for all managers/supervisors and passed on to employees, on the importance of early reporting in reducing severity and pain and suffering for employees. Similar reductions in injury rates were reported across our Asia Pacific businesses, and in Australia we established the Hazardous Manual Task Injury Reduction Program to further minimise the risks of musculoskeletal injuries. In the USA, Mexico, and Canada, investigation of incidents includes assessment of manual task injury reduction action items to further reduce the risk of injury.

Men's Health Week 2016

Men's Health week was promoted to our employees this year from June 13th to 19th. The 2016 theme was 'Health Elements' and the week aimed to increase the awareness of important male-specific health issues, including prostate health and cancer awareness, and mental health issues such as stress and depression. During Men's Health Week, employees were encouraged to participate in community outreaches to men, boys and their families to promote health and wellbeing through engaging activities, events and promotions. These events create the right setting for conversations about the elements that make us healthy - life, purpose, health and wellness and everything in-between - because they are locally tailored to the needs of men and boys and their local communities. Employees were also reminded of the resources IPL offers to support Men's Health, including the HSE Men's Health page on our internal intranet, which contains information to increase employees' understanding of heart health, mental health and general wellbeing, the Employee Assistance Program, and the IPL Work & Life Hub.

The IPL Work and Life Hub

The IPL Work and Life 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. 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



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
- ◆ Community Consultation on Major Projects

Print PDF



IPL understands that long term and meaningful relationships with our communities 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
- ◆ Community Consultation on Major Projects

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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. Outcomes associated with these local site community engagement programs during 2016 include:

- Our manufacturing site in Geelong, Australia conducts community meetings twice a year. Advertised through the local media, Geelong residents, local journalists and council representatives attend. 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 sponsors a local swim held by the North Shore Residents Group, provides an award for the top engineering graduate from Deakin University, and is actively involved in the [Northern Futures Program](#) which provides disadvantaged persons with employment experience.

- Employees at Geelong volunteered their time to the 2&5 Market Garden, a social enterprise set up to address food insecurity in the Northern Suburbs of Geelong by improving access to affordable, sustainable, fresh and healthy food. This project aligns with the IPL priority area of Education within its Sustainable Community Policy and is facilitated by [Karingal Inc.](#) through its initiative [BaLinks](#), a service that brokers relationships between businesses and community groups. The volunteers enjoyed a day of team-building, as well as making a difference at the garden while becoming more aware of some of the challenges that face our local communities.

- At our Portland SSP fertiliser manufacturing site in Victoria, Australia, employees voted to forgo their monthly safety award to donate the monies to the establishment of a helipad within the grounds of the local hospital. The helipad will enable seriously ill patients from the local community to be flown out for more serious treatment more quickly. IPL matched the donated funds, allowing the heliport to be completed with our logo proudly displayed.



- Our explosives manufacturing site located in Cheyenne Wyoming, USA, has a long history of

supporting the local community. This year employees continued to focus on helping the underprivileged, running community safety events and responding to local emergencies. Donations were made to local sports teams, and support and sponsorships were made to the Boys and Girls Club, East High School, and Cheyenne Superday and Frontier Days. Thanksgiving dinner baskets were delivered to those in need in the local community and on-site blood drives are held twice a year. Our Cheyenne Family Safety Day is run on site each year with the goal of educating local children and families about safety on a range of issues.



- Our Moranbah explosives manufacturing site in remote central Queensland sponsored Australian Olympic swimmer Mitch Larkin to visit Moranbah and impart his expertise to children at the Highlanders Swimming Club's annual Super Swim Camp. Moranbah is the only regional community that hosts a camp of this calibre outside of south-east Queensland, allowing kids from remote areas such as Moranbah, Clermont, Tieri, Dysart and Springsure to access one-on-one coaching and personal analysis of their swim stroke.

- The Moranbah site also sponsored the Blackall's Drought Relief Rugby League match fundraiser event between the Blackall Magpies and the Moranbah Miners. Over \$6,000 was raised for the Burrumbuttock Hay Runners who organised a convoy of 125 trucks to deliver 5,000 bales of hay to struggling communities throughout western Queensland. As part of the event, National Rugby League player Jaiman Lowe ran a coaching session for young local league enthusiasts.

- Sites regularly participate in community forums, working with local representatives to ensure appropriate plans are in place to mitigate the impact of a crisis situation. One example of this is our Big N Fertiliser Depot in Moree, NSW, Australia, which participates in the annual incident planning day with the Moree Shire Plains Council. Emergency action plans are established for the Moree community and surrounding area together with the local Fire Brigade. On completion, our site holds a BBQ and conducts a debrief meeting, with Moree Police and Ambulance services also attending when possible. For more details, see [Community Safety](#).

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.



The National NAIDOC Theme for 2016 was [Songlines: The living narrative of our nation](#) and the celebrations were held from July 3–10. NAIDOC week was promoted to our employees as a great opportunity to participate in a range of activities, and to support and connect with our local Aboriginal and Torres Strait Islander communities. This year we held a competition for NAIDOC week in the form of an online quiz. The quiz was designed to test our people’s knowledge of Aboriginal and Torres Strait Islander culture as well as to increase cultural awareness. Topics covered in the quiz included:

- Information about famous Indigenous Australians;
- Significant dates and history regarding Indigenous Australia; and
- The ways in which IPL currently supports Indigenous participation in our organisation and in the community.

The competition was open to everyone and quiz winners were awarded some fantastic artwork by contemporary and traditional Aboriginal artist Barry “Rainman” Boland, as well as prints and hand painted didgeridoos and boomerangs.

Community

Community Safety

◆ Material issue

Community

- ◆ Community Engagement
- ◆ **Community Safety**
- > Community Investment
- ◆ Community Consultation on Major Projects

 Print PDF


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, 51% of IPL's sites handle materials which have the potential to impact on local community safety. 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, 22% 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 Emergency Response Plans must be lodged with the local community Library and local Fire Station. 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. At many sites community doorknocks and leaflet handouts are conducted regularly. 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**
- ◆ Community Consultation on Major Projects

 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.

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\$354,806 including cash, time, in-kind support and management costs. 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 20 percent going to health initiatives (including sport), approximately 10 percent going to education and approximately 70 percent to local community development.

Community

Community Consultation on Major Projects

◆ Material issue

Community

- ◆ Community Engagement
- ◆ Community Safety
- > Community Investment
- ◆ **Community Consultation on Major Projects**

Print PDF



We undertake community consultation activity in support of all of our major development projects. These construction projects are typically multi-million dollar developments, taking place over months and years.

The local community, understandably, has questions and concerns about how such developments may impact them. We utilise internal expertise and, when required, employ stakeholder and community engagement specialists to support our project teams and local people to ensure timely communications throughout a project’s life cycle.

Waggaman, Louisiana Ammonia Plant

During 2016, construction of IPL’s 800,000 metric tonne per annum ammonia plant was completed, with a dedication ceremony on Thursday 29 September 2016 led by Louisiana Governor John Bel Edwards and IPL Chairman Paul Brasher. The plant achieved a TRIFR of 0.3 in 2016, well below its target of 0.7. During the plant’s construction over the past three years, more than five million man hours were worked with no lost time injuries recorded and a total project TRIFR of 0.31.

The Waggaman, Louisiana ammonia 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 SCR technology to reduce emissions of NOx by up to 98 percent. The plant sources its cooling water 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. In line with our commitment to sustainable development, the project was completed with zero land clearing. Download the [Louisiana Project Case Study](#) here.

Throughout each stage of the project, stakeholder and community engagement activities were undertaken to ensure community questions and concerns were appropriately addressed.

Our project team has continued to actively engage with the community in Louisiana during 2016, and has also maintained regular communications with Louisiana Economic Development, Jefferson Parish Economic Development Commission, Jefferson Parish, Waggaman Civic Association and Cornerstone Chemicals Community Advisory Panel. Construction employment is estimated to have peaked at 1,200 workers, and 65 new direct jobs were created by the project. Louisiana Economic Development estimates the project will result in another 477 new indirect jobs, for a total of more than 540 new jobs.





◆ 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

The risks and opportunities associated with climate change have been assessed. These are described in [our 2016 CDP 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, making [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.

IPL has a strong focus on progressively increasing resource efficiency to ensure long term economic and environmental sustainability.

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. Carbon dioxide is also liberated during the acidulation of phosphate rock in the manufacture of phosphate fertilisers.

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 2016:

11% REDUCTION IN NET GLOBAL WATER USE **9% REDUCTION GENERAL WASTE TO LANDFILL**

57% reduction in Environmental Incident Frequency Rate

[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, focussing 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

- Working with the Australian Federal Government on energy and carbon policy to ensure favourable outcomes for business and the environment.
- Continued focus on education, training and awareness to further embed principles of sustainable resource use and environmental best practice across the business.
- Working across the global business to identify and implement energy and water efficiencies.
- Focused improvement in reducing NOx (nitrous oxides) and SOx (sulphur oxides) in 2017.

Environment

Energy and Greenhouse Gases

◆ Material issue

◆ Environment

◆ Energy and greenhouse gases

> Reducing NOx and SOX

◆ Water

> Waste

◆ Environmental Compliance

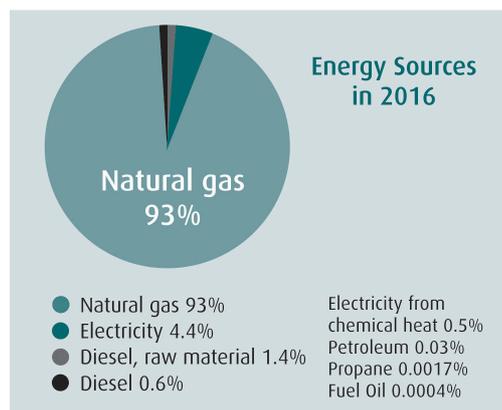
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As discussed in the previous section, the manufacture of ammonia and ammonia-derived products is energy-intensive, requiring natural gas as both a raw material and an energy source. The intensity of energy use and carbon emissions associated with our two main manufacturing processes is shown in the life cycle assessments for [ammonia](#) and [ammonium](#) nitrate. Assurance was obtained over our Australian GHG emissions, energy consumption and production figures for the period 1 July 2015 to 30 June 2016. The third party issued an unqualified opinion over our reported emissions, energy production and energy consumption.

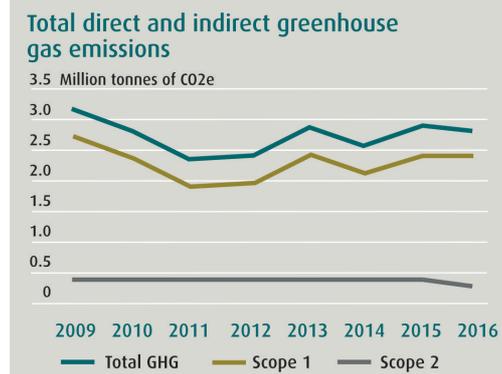
Energy use

IPL used 44,972,204 gigajoules (GJ) of energy over the past year, 1,971,644 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

We are a 'large emitter' of greenhouse gases (GHG), as defined by the Australian National Greenhouse and Energy Reporting System (NGERS). During 2016 our recorded Scope 1 (direct) and 2 (indirect) absolute GHG emissions were 2.7 million tonnes of carbon dioxide equivalent (CO2e). The total figure comprises 2.4 million tonnes of Scope 1 (direct) emissions and 0.3 million tonnes of Scope 2 (indirect) emissions. Read about our global GHG reduction targets [here](#).



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 2016 through initiatives such as lighting reviews, plant energy optimization projects and other continuous improvements. At St Helens, Oregon, pneumatically controlled instrumentation was converted to electronic instrumentation, reducing air compressor loads. At Cheyenne, Wyoming, natural gas use was reduced at one plant by increasing purge gas feed from another plant, and a full site energy audit was conducted at Graham, Kentucky, with plans to implement improvements in 2017. The Company also directly invested over \$1,000,000 in 2016 in the nitrous oxide abatement unit at Moranbah, Queensland, which reduced GHG emissions by 358,270 tonnes CO2e during the reporting period. We also quantified the [Scope 3 emissions associated with our shipping](#) for the first time in 2016.

Our new Waggaman, Louisiana ammonia 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.

In addition, approximately 10 percent of the CO2 generated will be captured and exported for use in making urea and melamine. Due to improvements in plant efficiency, and the installation of Selective Catalytic reduction technology at our Louisiana Missouri plant, we have set ambitious [global targets to reduce our GHG emissions by 3% per tonne of nitric acid produced and by 2% per tonne of ammonia produced by 2017](#).

The efficiency targets at Waggaman which support these reductions in emissions are linked to executive remuneration as explained in our [Annual Report](#), and the installation of Selective Catalytic reduction at our Louisiana, Missouri site will reduce the site's GHG emissions by 5% by 2017.

Environment

Reducing NOx and SOx

Environment

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

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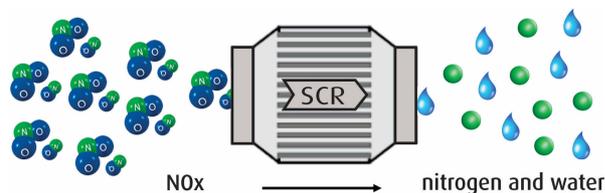


Nitrogen oxides (NO₂ and NO, referred to collectively as NOx) are released when fuels are burned at high temperatures, and when nitric acid is manufactured. Sulphur oxides (SO, SO₂, SO₃, referred to collectively as SOx) are emitted when fossil fuels are combusted, and in the making of sulphuric acid. This year our operations emitted 3,989 tonnes of NOx and 19,513 tonnes of SOx. 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 2016 we continued to invest in NOx reduction technology, with work almost completed on the installation of a Selective Catalytic Reduction unit for the Louisiana, Missouri, nitric acid plant in the US. This unit will reduce NOx emissions by 91% and GHG emissions by 5% at the site by 2017.

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 that will be achieved at Louisiana, other sites are also investing in NOx and SOx reductions. At Carthage, Missouri, a new wet scrubber system is planned for the acid tanks. This scrubber will receive vent fumes from 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 will be installed at St Helens, Oregon, and the evaluation of existing NOx scrubber efficiencies will be assessed at other nitric acid manufacturing sites. Read about our NOx reduction targets at [Our Targets](#).

At Mt Isa, Australia, a new high efficiency catalyst will be installed in the sulphuric acid plant converter in the first half of 2017. This new catalyst will improve the conversion of SO₂ (sulphur dioxide) to make sulphuric acid, reducing SOx emissions by 30%.

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 [Carbon Disclosure Water Project 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 2016 we used 43,823 ML (mega-litres) of water, a 5 percent increase from last year. The Company’s 2015 gross water use has been restated from 40,172 to 41,591 ML due to improvements in cooling water data collection systems. 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. 648 ML of water was recycled and reused at sites which have meters. This represents 1.5 percent of our total water use.

Water Use by Source:

- Surface water - 72%
- Groundwater - 17%
- Municipal water - 9%
- Recycled water - 1.2%
- Storm water - 0.2%
- Rain water - 0.00005%
- Desal water - 0.000002%



Water discharge by destination

During 2016 we discharged 35,579,618 m3 of water to the environment, an increase of 11 percent. This total discharge excludes sewage, discharge of collected rainwater and waste water removed for treatment or disposal as liquid waste (which are included under ‘Waste’). As shown in the graph, most of this water was clean cooling water which was discharged to the natural waterways from which it was taken, reducing our net water use to 9,311 ML (restated to 10,477 ML for 2015). 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 - 98.7%
- Groundwater - 0.9%
- Sewers - 0.4%

Improving our performance

Continuous improvement opportunities include:

- At Simsbury, USA, the installation of an automatic tool wash system in 2016 will reduce the amount of tool wash water by 50 percent.
- At Cheyenne, Wyoming, the recovery of boiler blowdown water, and the reclamation of waste water streams through reverse osmosis and brine concentrator units in 2016 will save 70,000 kL of water per year. In 2017, a cooling tower will be installed on the acid mixing system to allow the recirculation and reuse of cooling water, which will save 1700 kL of water per year.

- At Carthage, Missouri, the installation of a reverse osmosis water filtration system reduced the amount of boiler blowdown water by approximately 90 percent, also reducing waste water amounts by 3,800 kL and energy use by 35 GJ per year.
- 162,917 kL of water was recovered from waste gypsum stockpiles at our Phosphate Hill, Australia, site, also recovering valuable phosphates for fertiliser production
- At St Helens, USA, work is planned to investigate the reuse of boiler blowdown water and process water, which could potentially be reused in 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 to focus specifically on further water reduction opportunities including the development of a complete water strategy for the site in 2017.

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), reclamation of water from waste gypsum stacks and a reduction in mine dewatering, a process to remove water so that the phosphate ore body can be accessed. In addition, a third party specialist was commissioned to complete a Water Balance Study for the site last year, which 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 this year, and the reduction in dewatering reduced total withdrawal from the aquifer by 18 percent against 2015 withdrawals.

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 61,464 kL being treated and re-used this year. A septic system designed to recycle grey water was installed during 2016 at the new Product Distribution Centre, also in Geelong.

Mt Isa: Queensland, Australia

With an estimated population of 21,821 as at June 2015, 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

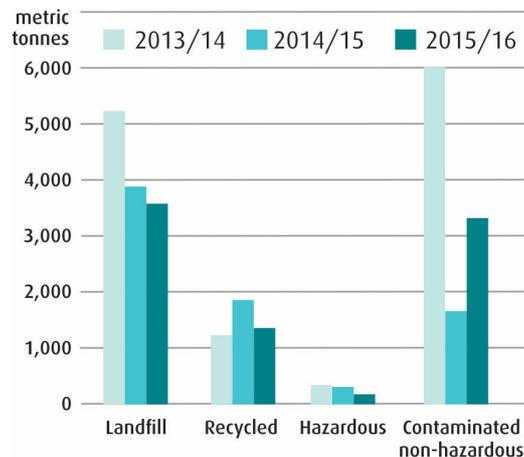
- ◆ Energy and greenhouse gases
- > Reducing NOx and SOx
- ◆ Water
- > Waste
- ◆ Environmental Compliance

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Solid waste by destination

This year our sites generated 8,288 tonnes of solid waste, 8 percent more than last year. This increase was mostly due to increases in organic green waste, plastics and metals, which were all sent to recycling. This resulted in a 9 percent reduction in general waste to landfill from 2015. Approximately 1.6 percent of our solid waste was classified as hazardous and was mostly waste from the manufacture of our explosives products. In addition, 4,460 tonnes of ammonium nitrate that was unsuitable for use in explosives manufacturing was converted to fertiliser at several of our sites. This was sold to local farmers as either a nitrogen rich liquid fertiliser, or a low grade solid fertiliser.



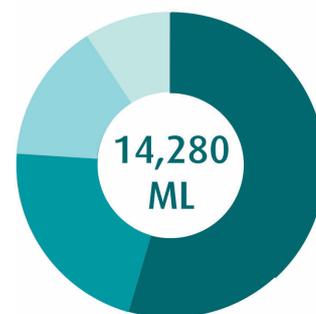
Solid chemical waste

Our sites generated 2,134,307 tonnes of solid chemical waste this 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 307 tonnes (0.01 percent) of hazardous chemical waste was mostly generated by our North American explosives initiation system manufacturing plants. This year, 2 percent less solid chemical waste was generated.

Liquid waste by destination

Our sites generated 14,280 kL of liquid waste that was sent offsite for re-use, recycling or disposal this year, a decrease of 6 percent from 2015. This liquid waste total includes 9,417 kL of contaminated water, 4,234 kL of hazardous liquid waste and 629 kL of non-hazardous waste. Approximately 54 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. 70 percent of the hazardous waste was septic liquid or sludge (considered a bio-hazard) which was sent offsite for disposal or treatment.

- Off-site reuse (N rich water)
- Off-site disposal (non-hazardous)
- Offsite recycling
- Offsite treatment & disposal (septic)



Waste reduction initiatives and opportunities

Continuous improvement in reducing all types of waste and increasing recycling has resulted in several new initiatives in 2016, as well as identifying focused areas for improvement in 2017.

- At Carthage, USA, a complete redesign of the site wastewater system was initiated in 2016. This will be a 5 year project which considers all wastewaters and evaluates each stream for reduction and/or elimination. The aim of the project is to reuse wastewaters, which typically contain valuable nitrates and ammonia. In addition, solids which are currently filtered and disposed of could potentially be recovered, resulting in a reduction of hazardous waste, as well as recovery of valuable product.
- The Carthage, USA site also invested \$260,000 in the purchase of a Micro-Auto Gasification System (MAGS). The MAGS will convert the organics in non-hazardous explosives contaminated waste into syngas, which will be used as fuel for the MAGS and to generate hot water. This will reduce the site's hazardous waste by approximately 10 tonnes and save approximately \$130,000 each year. It will also reduce energy use for water heating.
- At Gregory, USA, a project to reclaim explosives powders during parts cleaning and nitrate residues during acid tank cleaning reduced hazardous waste and increased production.
- Our Simsbury, USA site worked to establish processes which divert plastic wrap, bolts and metal flanges to recycling, and eliminated the use of plywood in customer shipments.
- At Wolf Lake, USA, processes were established to recycle floor sweepings and non-conforming cast boosters, reducing hazardous waste and increasing production. The opportunity to recycle paper booster canisters will also be investigated in 2017.

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 2015 to 30 June 2016. The third party issued an unqualified opinion over our reported emissions, energy production and energy consumption.

We supply data regarding our Australian energy consumption and the emissions to air associated with the manufacture of fertiliser to [Fertilizer Australia](#) each year, which is published as part of their annual consolidated Public Environment Report. Details of emissions are also supplied to the International Fertilizer Association (www.fertilizer.org) for consolidated public reporting.

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 2016 ([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 2016 financial year was focused around risk management, compliance and increased reporting of potential incidents and hazardous observations.

While this has increased the total number of incidents reported globally in 2016, over 90 percent of these were reports of near misses which informed mitigation strategies and allowed potential environmental incidents to be avoided.

9:1
'HAZARD' & 'NEAR MISS'
TO INCIDENT
REPORTING

Highlights during the 2016 financial year included the following:

- The review of all Australian licensed sites' Compliance Management Plans and Risk Registers to identify environmental risks and implement improved mitigation controls.
- The rollout of a new Environmental Compliance Audit Tool to an additional 21 sites in North America.
- The auditing of Spill Prevention, Control and Countermeasure Plans across North American sites, and the use of Visual Management tools and 5S processes to increase loss of containment awareness globally. This 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 0.32, a reduction of 57% on the 2015 EIFR.

57%
REDUCTION
IN ENVIRONMENTAL
INCIDENT
FREQUENCY RATIO

Fines

For the 2016 financial year, IPL received fines in aggregate of approximately A\$60,500 for incidents relating to its fertiliser operations in Australia and a fine of US\$100,000 for failure to conform strictly with an air quality permit in relation to one of its plants in the US.



Products and Services

◆ Material issue

◆ Sustainability of Products and Services

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

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.
- Researching blast designs and products to reduce nitrate leaching and other post-blast impacts.

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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

Raw Materials and Suppliers

◆ Sustainability of Products and Services

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

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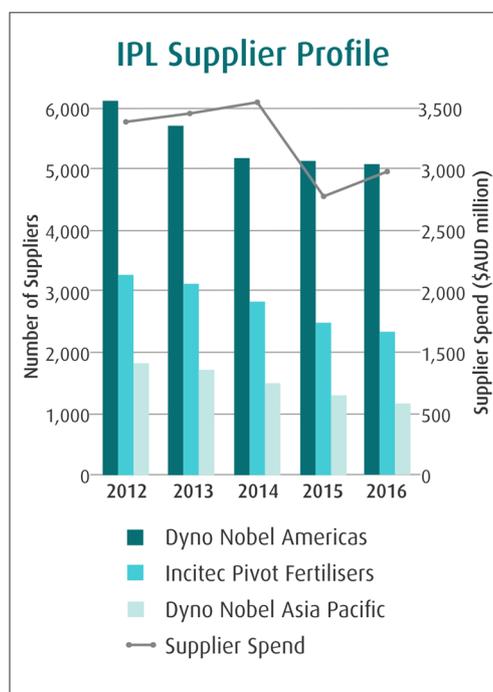
Our Global Procurement team has a number of mechanisms in place to assess the sustainability practices of our suppliers.

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 materials suppliers also contain clauses that outline Company expectations of suppliers' workplace health, safety and environmental performance. The assessment of suppliers and close out of assigned actions is monitored through regular reporting. The IPL Supplier Code of Conduct, drafted in 2016, will be further developed in 2017.

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

During the past year, IPL continued to apply BEx methodologies and risk management tools to its sustainable supply chain model, with a particular focus on engaging more of our suppliers through improved contracts with more focused KPIs. The results have included better contractor equipment standards, leading to greater energy efficiency and lowered emissions. Our procurement teams also worked to reset our cost base in challenging market conditions, with significant cost savings.

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



During 2016 we continued to reduce the emissions associated with our global shipping contractors in the performance of their services for us. By using the 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.

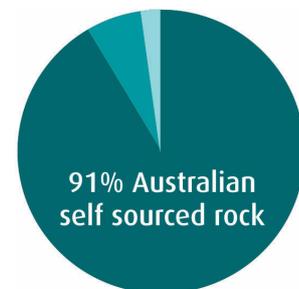
For the first time, as part of our engagement with our global shipping suppliers, we were also able to quantify the Scope 3 greenhouse gas emissions associated with our shipping during 2016, which was 74,423 tCO2e. Although present data collection systems do not allow us to calculate the amount of emissions avoided by our use of more efficient vessels in 2016, we are working with our suppliers to be able to calculate this in 2017.

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 2,387,556 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 and presents therefore 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.



- Australian IPL Phosphate Rock: 90.8%
- Asia Pacific Rock: 6.7%
- Phosphates de Boucraa, SA, Rock: 2.5%

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 384,666 tonnes of SSP using a blend of 242,258 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 Office Cherifien des Phosphates), which included rock sourced from the Non Self Governing Territory of Western Sahara, with the latter comprising approximately one quarter of the rock blend used for SSP, and just 2.5 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.

In 2015, IPL worked with suppliers, customers and industry bodies to trial a new program to collect and recycle our fertiliser packaging. In 2016, the recycling program was extended to all of our fertiliser customers across eastern Australia and has been made permanent.

To establish the program 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. Commencing in September 2015, the collection-and-recycling trial of fertiliser packaging was conducted across the Northern Australian sugarcane farming region, where approximately 80% of the sugarcane harvested in Australia each year is grown, and where we supply fertiliser to many cane growers. 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. This initiative was also supported by state and local governments, and local recyclers.

The 2015 trial was extremely successful and demonstrated the commitment of our customers to a sustainable recycling option for our fertiliser packaging. Now a permanent program, we continue to provide 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. During 2016, 82,333 fertiliser bags were collected and recycled, which is 14 percent more bags than during the trial.

Not only was the volume of plastic collected in 2016 enough to make 1,300 park benches, it means tidier farms, less material going into landfill sites and less likelihood of the plastic packaging ending up in the environment.



Sustainability of Products and Services

Product Quality

◆ Sustainability of Products and Services

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

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Our fertiliser Quality Policy outlines our commitment to providing products and services that meet our customers' needs.

Fertilisers contain various impurities which are mostly derived from the raw materials used in fertiliser manufacture. We are committed to providing quality products and services that meet customer needs. 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 2016, the percentage of fertiliser sales with quality control issues which were compensated for was just 0.042%. 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.

0.042
% SALES
FERTILISER
QUALITY CONTROL
ESCAPE RATE

Through Dyno Nobel, we are renowned as a global provider of innovative explosive products, services and solutions, delivering ground-breaking performance to our customers every day.

During 2016 we continued to improve our explosives product quality by the detection, analysis and correction of trends during processing which may impact quality and performance. Ingredient substitutions during 2016 resulted in improved emulsion quality, increased shelf life and improved stability. In addition, we created a superior surface emulsion to better withstand the rigours and timelines of international shipping. An improved Quality Management System was introduced into our Explosives Initiations Systems manufacturing plants and our Australian bulk emulsion manufacturing plants in 2015. The new QMS has allowed 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 2016 Escape Rate was 0.46, a better result than our target rate of <1.

0.000046
% 'IS' UNITS
QUALITY CONTROL
ESCAPE RATE

Globally, our 'Marketing & Technology Ideas & Work Requests Database' continues to accept requests from all over the company for assistance from our Research and Development Team, promoting a closer working relationship between our research and development laboratory and our manufacturing plants. This results in continuously improved operating procedures, particularly where product analysis is required, and is facilitating improved product quality in relation to both our bulk explosives formulations and the raw materials sourced.

Sustainability of Products and Services

Research and Development

◆ Sustainability of Products and Services

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

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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 these products in the right place and at the right time. Soil and plant tissue analysis are 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 (the atmosphere), while conserving more nitrogen for plant uptake. During 2016, trials have continued to demonstrate the potential for significant reductions in GHG as well as cane yield increase with the use of Entec. Read about the results of these trials on pages 35-42 of the [Australian Sugarcane Annual 2016](#).

- [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
- agronomic forestry situations
- field crops where urea is applied to bare soil or soon after crop germination.

This year we completed two three-year joint research projects with the University of Melbourne into reducing GHG emissions from agriculture and began two new projects, also relating to the use of GHG inhibitors in fertilisers. Read about these at the links below:

[Mitigating indirect nitrous oxide emissions in intensive agricultural systems](#)
[Reducing nitrous oxide emissions from applied nitrogen with nitrification inhibitors](#)
[Healthy soils for sustainable food production and environmental quality](#)
[Soil microbial indicators for efficient use of nitrification inhibitors](#)

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.

During 2016 we completed an Australian Research Council funded Linkage Project with the University of Sydney into understanding the interaction of ammonium nitrate explosives with reactive ground. This project resulted in the publication of two papers in scientific journals and the lodging of a patent specification to protect the novel technology developed. We also received funding approval for a new Australian Research Council project to investigate Low Fume Explosives for Critical Areas in partnership with Murdoch University. This project is scheduled to commence in 2017 and is aimed at reducing the instance of NOx formation during blasting and, if formed, ways to treat the pollution. Other projects addressing the control of NOx fume include:

- **Effects of different additives in AN prill on NOx formation during thermal decomposition of AN** addressed the question of whether incorporating different additives in ammonium nitrate prill reduced the likelihood of NOx fume. This project has been completed and resulted in more than six published papers in scientific journals describing the roles and effectiveness of various additives in reducing NOx emissions during blasting. We are currently using this research to develop improved products and product delivery methods.
- **Modelling of reactions of NOx and biomass molecules during detonation** investigated the use of biomass as a scavenger for NOx molecules formed during the detonation of explosives and significant work determining the reactional pathways in the NOx forming process has been performed. The initial project has been completed and we are continuing to fund the next steps of work in this area to characterise high temperature combustion reactions and improve safety through [a new project in conjunction with Murdoch University in Perth](#).

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 are also working with customers 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. During 2016 we continued testing third party extracted materials in Australia and the US as well as oils made from natural gas sources. The recycling of a range of 'out of specification' (OOS) materials has also been developed significantly in 2016. We will continue to test non-traditional sources for recycling hydrocarbons and other materials in 2017.

List of research organisations funded

Research Organisation	Project Funded	Expected period of Funding
Latrobe University, QDAFF & University of Tasmania, Australia	Mitigation of Nitrous Oxide Emissions in the Vegetable Industry	2014-2016
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
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

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

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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 controlled-release 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.



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

This year our fertiliser business ran five Agronomy Community Forums. Approximately 200 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.



Our fertilisers business also hosted 12 Agronomy in Practice courses throughout the year across Eastern Australia, training over 90 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 15 staff received Fertcare A or B training.

Sustainability of Products and Services

Minimising the Impacts of Blasting

◆ Sustainability of Products and Services

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

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, and during 2016 we worked on the development of a high energy form of the product. 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 2016, our Explosives technology team continued to test and develop [Differential Energy](#), 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 dig-ability. 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.

Print PDF



Sustainability of Products and Services

Customer Health and Safety

◆ Sustainability of Products and Services

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

 Print PDF



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 labelling meets the requirements of the Globally Harmonized System of Classification and Labelling of Chemicals. Our Australian SDS comply with the requirements of Safe Work Australia 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 directed by the Global Product Management teams. 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.

Site and distribution security

Many of the explosive 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. In addition our sites are also managed under our own strict health, safety and environmental

Sustainability of Products and Services

Support and Education of Customers

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

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

The Farmer Community provides Australian farmers with valuable agricultural and industry information to assist with agronomic and fertiliser decision making. The Community was developed in response to a growing need for readily accessible information including new product information, agronomic advice and information about global fertiliser dynamics.

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 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 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.

Dyno Nobel’s Explosives Engineers’ Mobile 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.



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◆ Managing Our Workforce

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

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 multigeography, 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 saw significant cyclical and structural change in our markets including explosives, industrial chemicals and fertilisers. In response, we involved and supported our employees as we reviewed our organisational structure and employee roles, implementing changes necessary to ensure alignment with these markets.

Our Human Capital strategy contributes to the achievement of our cultural, social and business goals. BEx is integral to our strategy because core BEx methodologies engage and involve our people, from the 'shop-floor' to the executive, to improve their skills and achieve continuous improvement in all facets of our operations. We believe that taking an integrated approach will lead to constructive and sustainable outcomes for our people and our other key stakeholders. During 2016, our strategic priorities were to fully utilise IPL's diversity policies and practices, improve IPL's learning systems to more efficiently support compliance with our standards, and to meet the challenges associated with the organisational restructure necessitated by our changing markets. Many people across the Company, from site to senior levels, were involved in using BEx methodologies to successfully develop this response.

Print PDF



What is BEx?

Key highlights during the year included:

- The provision of role based development opportunities for the Company's employees. Over 50 percent of senior employees have experienced a broadening of their role, a role promotion, or other role responsibility change during 2016.
- Maintenance of 2 percent Indigenous employment across IPL's Australian businesses.
- Increased representation of women within executive and senior management roles.
- Commencement of the implementation of the global IPL Learning Management System (LMS).
- Broadening of the use of the change management

framework to give effect to our Value of Respect, Recognise and Reward during change in work practices, structures and processes.

- Continued training in Behavioural Safety.
- The completion of our first annual report to Reconciliation Australia on the progress of the IPL Australian Indigenous Reconciliation Action Plan.
- Extension of My Potential, a pilot program specifically designed to assist women to progress into leadership roles, across Australia and the Americas with the addition of a Managers co-program for the leaders of those involved
- The development of Social Return on Investment Metrics to quantify and communicate our social contributions.

Key Challenges & Opportunities

- Ensuring that we continually have skilled, diverse and ready talent to meet current and future demands in a changing market
- 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
- Engaging our geographically and culturally diverse workforce on a site-by-site basis

Strategic Priorities

- **Capability** - building our people's BEx capability through the use of BEx methods and tools, which will contribute to the long term sustainability of our Company
- **Diversity** - Increasing our diversity profile at all levels of IPL
- **Human Capital Systems** - Completion of the implementation of the IPL global Learning Business System (LBS), of which our LMS is a part, and which was begun in 2016 to provide Company wide standards for learning and development.

Managing our Workforce

Attracting and Developing Talent

◆ Managing our Workforce

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

 Print PDF



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.

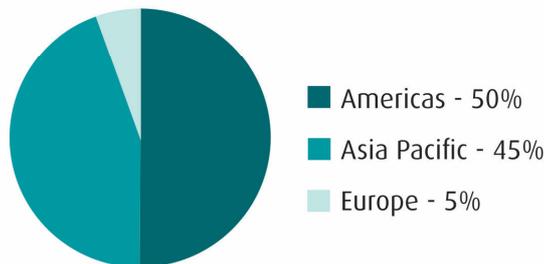
Targeted training programs are also in place to nurture the next generation of talent, including our Australian Manufacturing Graduate Program.

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.

The graduate program 'Onboarding' week is undertaken by all first year graduates to learn about our business, culture, values, BEx and safety standards and processes. The learning and development component of the graduate program includes sessions on expectations, performance management, development, communication and self-awareness. Currently, 80 percent of our graduates are female. The success of the program is demonstrated by the employment outcomes: we are pleased to have offered roles within IPL to 100% of the graduates who have completed our program in the last 4 years. While we retained all of our current graduates during the recent restructure necessitated by our challenging markets, we are not currently recruiting for new graduates in 2017.

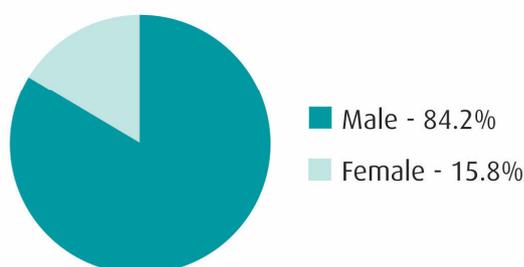
Our workforce as at 30th September 2016

Total workforce by geographic location (excluding contractors)



4584
EMPLOYEES
(excluding contractors)
GROUP-WIDE

Total workforce by gender (excluding contractors)



Gender Diversity (% of women) as at September 30

	2013/14	14/15	15/16
Board level	25.0%	28.6%	28.6%
Executive	12.5%	12.5%	33.3%
Senior Management	12.2%	15.3%	16.9%
Management	15.6%	16.3%	11.5%
Global	15.7%	15.8%	15.8%

In our Americas business, the explosives manufacturing plant in Cheyenne, Wyoming continued a partnership with Laramie County Community College.

The partnership assists 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 has guaranteed interviews to program graduates and is assisting the College in the development of the course curriculum.

Our Asia Pacific business is also associated with several industry and related organisations, including the Skills DMC, the Southern Queensland Institute of TAFE, 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 decreased slightly to 55.6%, which was primarily due to the impact of the 2016 restructure. We aim to increase this percentage in 2017.

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 2016, employees were assessed against their individual goals as well as leadership competencies, a set of expected capabilities against which our leaders were measured for development and performance as part of the performance management cycle. These competencies incorporated the leadership skills required to deliver BEx, such as holding people accountable, driving improvement and the capacity to influence and develop others. During 2017, we will be introducing our Values into the performance management assessment.

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

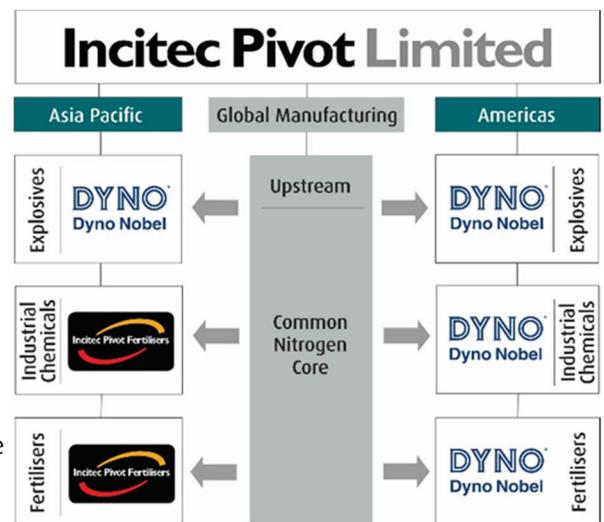
	2015	2016
Total	58.2%	55.6%
% of males	54.3%	51.2%
% of females	78.8%	75.5%

% of 2016 employees by gender and by employee category who received regular career development & performance reviews

	Male	Female
Board	100.0%	100.0%
Executive	100.0%	100.0%
Management	100.0%	100.0%
Non-management	74.8%	49.4%
Total	75.5%	51.2%

Workforce Planning

During 2016 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. As we implemented our restructure, we maximised the opportunities to retain our high potential talent and provide role based development opportunities for our employees. Over 50 percent of senior employees have experienced a broadening of their role, a role promotion, or other role responsibility change during 2016.



We also recognised that the change process associated with the restructure meant that many employees, team leaders and middle managers needed to learn new skills and work practices. Read about how we are building our employees capabilities in [‘Learning and Development’](#).

Although our focus has been on organisational wide review of all roles and functions during 2016, we will continue to remain competitive in recruiting talented people for any key positions which arise in 2017 through:

- Continuing to provide market competitive remuneration, alongside merit-based performance management;
- Our new social media strategy, which was implemented last year 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

Our Talent Metrics

As part of our focused improvements last year, we expanded our range of key talent management metrics. In addition to our retention statistics, these metrics have been utilised in 2016 to inform and assess our effectiveness in talent retention, to identify our development needs and to assist in making appropriate appointments to ensure that our high potential employees and key talents were given development opportunities as a result of the restructure of our business. These metrics remain explicitly linked to our goals, objectives and strategies and will allow us to track and measure our progress in managing our talent into the future. They include the following:

Objective	Measure
Engage, promote and stretch high potential talent	% internal role moves based on development plans
Increased promotion of diversity in talent acquisition, training, development and promotion	% women in management
	% women in operation
	% women with succession plans
Improved annual talent review	% Australian Indigenous Employees at all levels
	Annual talent review improvement year-on-year

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. During 2016 we 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. SROI is a principles-based method for measuring the extra-financial value created by companies. 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.

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)

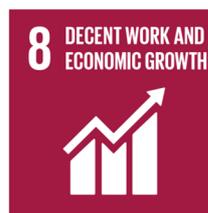
GLOBAL REDUCTION IN INJURIES 3.2 MILLION INVESTMENT IN SAFETY



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 \$850 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, 466 flow on positions (valued at average wage) and avoided US\$7,800 per position in benefits

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

Managing Our Workforce

Engaging Our Employees

◆ Material issue

◆ Managing Our Workforce

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

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 recognises employees from all parts of our global operations for demonstrating positive cultural behaviours, aligned with our Values and business priorities. Over the year, 97 Value Awards were awarded globally to individual employees and teams through our recognition programs.

Total number and rate of new employee hires for the full year	2015	2016
	11.9%	9.8%

Employee voluntary turnover rates for the full year (%)	2015	2016

By age group:		
All employees under 30	30.3%	26.4%
All employees 30-50	6.2%	6.0%
All employees 50+	16.7%	7.4%

By gender:		
Male	15.0%	11.7%
Female	9.2%	12.4%

By region:		
Americas (incl US, Canada & Chile)	17.2%	11.4%
Asia Pacific (incl Australia & Indonesia)	8.4%	14.7%
Europe (incl Turkey)	14.2%	0.0%

Percentage of employees covered by collective bargaining agreements		
	22.9%	19.9%

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 and Hong Kong 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 across all age groups and regions in 2016, with the exception of the Asia Pacific region. This is likely to be due to current labour market trends and the impact of the restructure of our organisation and workforce during 2016.

Organisational climate surveys are well established as an effective tool for human resources management. Surveys were conducted at some company sites last year with a planned rolling two year cycle, and were 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 were made during 2016 to facilitate increased two way communication throughout the company, including a strategic increase in the frequency and reach of business strategy & performance updates and more regular collaboration forums.

During 2016 we also built on our climate survey results through strategic leadership coaching. Leadership coaching is when the leaders in an organisation incorporate a coaching approach into their leadership style. In addition to facilitating a more direct and engaged monitoring of the culture across our business, research

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What is BEx?

indicates that a leader's style has as much as a 70% impact on the climate within the organisation.

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 Coaching as Leadership also increases the long term value and returns associated with training under [Learning and Development](#).

We also developed social return on investment (SROI) metrics during 2016, which will help us communicate 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 and these metrics will be built into the IPL employee value proposition.

Read more about our SROI metrics under [Attracting and Developing Talent](#).

Managing Our Workforce

Learning and Development

◆ Material issue

◆ Managing Our Workforce

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

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:

- Developing 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. Across our global business, 42 percent of our employees completed some form of BEx training in 2015, with a further 20% trained in 2016.

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. Developed last year, with implementation beginning during 2016, the system is a direct enabler of our Human Capital strategies. The key benefits and aims of the LBS are shown in the graphic to the right. Training programs in 2016 included Risk Management, Problem Solving, Teamwork, 5S, training in the IPL Fraud and Anti-Corruption Policy and the My Potential program.

The IPL 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 methodologies to bring continuous improvement across many areas of our global business.

This has led to a substantial lift in employee engagement across the sites. 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

Key benefits

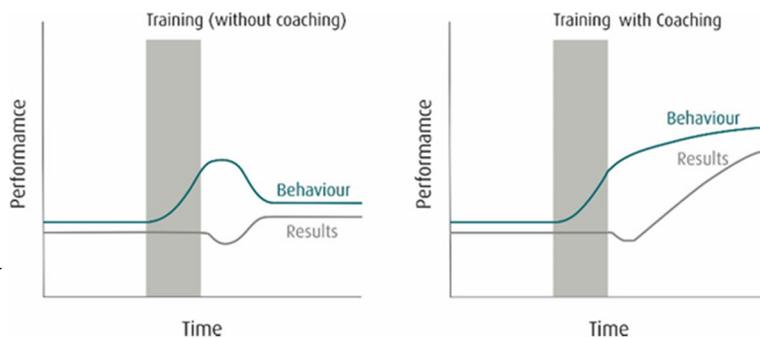
Key aims



continuous learning. The effects are shown in the diagrams to the right.

During 2017 we will continue to build coaching capability in our line leaders through our BEx aligned Leader as Coach program. This program will provide our line leaders with the skills required to coach on the job, coach the IPL Business System 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%).



Adapted from 'The Heart of Coaching', Crane 2009

During 2016 we began 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, 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 250 non-regulatory courses are planned for late 2017, with additional courses to be added regularly. The platform will facilitate the ongoing development of employees and provide consistency in training which will allow rapid deployment of new training and Zero Harm initiatives, including process improvements and Process Safety Management. The system will allow 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 tracking 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

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

Print PDF



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.

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 and American operations, allowing us to implement strategies to address any identified issues. For more detail, see our Corporate Governance Statement.
- We introduced a 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 the key talent management metrics, introduced last year, and our Talent and Succession Planning process to improve gender diversity within our Senior Management Roles by 10 percent
- Our Australian Manufacturing Graduate Program intake included an Indigenous Australian and over 80% of the graduates were female.
- We launched the IPL Family and Domestic Violence policy to provide support for our employees.
- We continued to facilitate Indigenous cultural awareness for our employees through online learning, direct engagement with traditional owners and participation in events such as Reconciliation Week and NAIDOC Week.
- 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.

Organisational Tier	employees %	
Gender diversity at IPL		
Male: All	84.2	84.2
Female: All	15.8	15.8
Male: Board level	71.4	71.4
Female: Board level	28.6	28.6
Male: Executive team level	87.5	66.7
Female: Executive team level	12.5	33.3
Male: Management level	86.0	86.1
Female: Management level	14.0	13.9
Male: All other levels	83.8	84.4
Female: All other levels	16.2	15.6

Age diversity at IPL*

All employees under 30	15.2	14.9
All employees 30-50	53.7	53.8
All employees 50+	30.9	31.9

* 8 employees did not disclose their age

Salary Equity at IPL	Male to female ratio	
Executive level	1:0.72	1:0.85
Management level	1:0.96	1:0.92
All other levels	1:0.98	1:3.16

• Our CEO is an active member of Male Champions of Change (MCC), Victoria, which was established to identify and share practical actions that leaders can take to increase the representation of women in leadership. As in 2016, IPL will continue to participate in the MCC 'Everyday Sexism' working group in 2017 to ensure our work environment is one of respect and aligns with our Values.

In 2015, the My Potential program was introduced 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 tracked the progress of female employees who participated in the program and saw an increase in both promotions and role enhancement in comparison to non-participants. In light of the positive results and following overwhelmingly positive feedback from the program participants, this program was continued during 2016 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. In 2016 we introduced a co-program for leaders who manage high potential female employees involved in the My Potential program. The co-program will assist leaders to gain insights and coaching skills to assist their female team members in overcoming some of the challenges they face, and will build our leaders' capacities to support female employees within their teams and across IPL.

Australian Indigenous Reconciliation Action Plan (RAP)

In 2015 the IPL Board approved our Reconciliation Action Plan, which has also been endorsed by Reconciliation Australia. The RAP was launched in 2016 and provides us with a framework to outline our vision for reconciliation and 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.

IPL has identified six organisational program investment areas and has 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 six 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.

Managing Our Workforce

Australian Indigenous Employment Program

◆ Material issue

◆ Managing Our Workforce

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

 Print PDF


What is BEx?

In line with our commitment to Value People – Respect, Recognise & Reward, IPL’s Indigenous Employment Program aims to increase 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 maintained a target of 2% Indigenous Employment across the Australian businesses. 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 improve 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

During 2016 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. 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.

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.

While the external employment market in Australia has continued to slow in 2016, we have continued to pragmatically work with leaders and the recruitment team to sustain our focus. As we look ahead to 2017 we are looking to implement new and innovative initiatives help increase our Indigenous employee numbers and increase cultural capability for all our employees.