



# **National Packaging Covenant**

## **Annual Report**

**July 2008 – June 2009**

## Executive Summary

Incitec Pivot Limited is a global chemicals company with nitrogen-based manufacturing at its core. Within Australia, the Company is the:

- Number One supplier of fertilisers in eastern Australia;
- Number Two supplier of explosives products and services.

This Report is confined to agricultural fertilisers sold to farmers in Australia through the company's own distribution centres and its agent and dealer network. It excludes:

- Fertilisers supplied in bulk to other Australian distributors;
- Fertiliser exports;
- Industrial chemicals;
- Explosives.

In 2008-09, Incitec Pivot sold close to 1.5 million tonnes of fertiliser to Australian farmers through its Dealer Network, or direct to farmers through Agents or company-operated facilities.

More than 90% of this was solids, of which close to 80% was supplied in bulk and 15% in Flexible Intermediate Bulk Containers (FIBCs). The remaining 5% was in small packs (20, 25, 40 and 50 kg).

A small part of the fertiliser sold in small packs, about 2 000 t/annum, finds its way into consumer markets, and for this reason Incitec Pivot reports annually on its domestic fertiliser sales to the National Packaging Covenant.

Over 95% of the fertiliser sold in FIBCs was in Returnable and Limited Trip Bags. These are kept for about three years before being taken out of service.

Less than 5% of the fertiliser supplied in FIBCs was in Single Trip Bags.

FIBCs and small packs are made from Woven polypropylene (WPP) that is not accepted domestically within Australia in recycling programs. WPP is used because of its durability and strength.

Rather than dispose of Returnable and Limited Trip FIBCs that have reached the end of their working life to land-fill, Incitec Pivot collects these and exports them to China for recycling.

Incitec Pivot also accepts back Single Trip FIBCs that it has supplied to customers as part of this recycling scheme.

Small (20 - 50 kg) packs are not usually accepted back. It is impractical to offer a collection and disposal service for these packs. They are mostly disposed of on farm.

Incitec Pivot is recycling about one-third of the total weight of woven polypropylene packaging that it used.

Incitec Pivot estimates that around 2 000 t of its packaged fertiliser are purchased and used each year by home gardeners. This is 0.1% of the total amount of fertiliser sold annually under the Incitec Pivot brand name. This product has a value of approximately \$2 000 000.

The vast majority of the raw materials and products sourced by Incitec Pivot are in bulk so the company does not generate large quantities of post consumer packaging waste.

Some speciality and trace element fertilisers are packaged. These may be on-sold or used internally as blend ingredients in the manufacture of other fertilisers. Used FIBCs from these products are disposed of along with those used for the company's own products.

Other packaging wastes are not treated differently to other like wastes and make up a small part of the total, hence, while recycling programs are in place at many of the company's sites, specific data on post consumer packaging wastes and recycling rates are not available.

In summary, the fertiliser market is mature and stable. As far as fertiliser packaging is concerned, in 2008-09:

- Almost 80% of solid fertilisers were supplied in bulk, 15% in FIBCs and 5% in small packs; and
- Returnable and Limited Trip Bulk Bags made up more than 95% of the fertiliser despatched in FIBCs.
- About one third of the woven polypropylene packaging that was used was recycled by collecting spent FIBCs and exporting them to China.

## **Endorsement**

Incitec Pivot is committed to the principles of the National Packaging Covenant and the sensible use of packaging.

The company promotes the sale and use of its products in bulk and reusable intermediate bulk containers so that the overall use of packaging is minimised.

All packaging for solid fertilisers is presently made from Woven Polypropylene (WPP) as it provides the necessary strength and durability necessary in agricultural markets.

There are no recycling facilities for WPP in Australia.

After being taken out of service, Returnable and Limited Trip Flexible Intermediate Bulk Containers are collected and exported overseas so that they can be recycled rather than disposed of locally to land-fill.

These actions not only minimise the amount of packaging required but also the amount of used packaging sent to land-fill in Australia.

James Fazzino  
Managing Director and CEO

Date:

## **Contact Officer**

Garry Kuhn  
Product Stewardship Manager  
Incitec Pivot Limited  
PO Box 140  
Morningside  
Qld 4170

Phone 07 3867 9429

E-Mail [garry.kuhn@incitecpivot.com.au](mailto:garry.kuhn@incitecpivot.com.au)

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# 1. Incitec Pivot Limited – Company Background

Incitec Pivot Limited is a global chemicals company with nitrogen-based manufacturing at its core. The head office is in Melbourne.

Incitec Pivot Limited was established in 1919 as the Phosphate Co-operative Company of Australia and in 2003, merged with Incitec Fertilizers. Southern Cross Fertilisers was acquired in 2006. Incitec Pivot expanded into explosives and North America with the acquisition of Dyno Nobel in June 2008.

Nowadays, Incitec Pivot has extensive operations throughout the United States, Canada, Mexico and Australia, including over 20 manufacturing plants, scores of distribution centres and well-established channels to market. The Company employs approximately 4,500 staff worldwide. The Company is the:

- Number One supplier of fertilisers in eastern Australia;
- Number One supplier of explosives products and services in North America - the largest industrial explosives market in the world; and
- Number Two supplier of explosives products and services in Australia - the third largest industrial explosives market in the world.

Incitec Pivot supplies more than 50 per cent of Australia's agricultural fertiliser needs, marketing into all States and Territories except for Western Australia.

Fertiliser manufacturing facilities are located at Phosphate Hill in northwest Queensland, Brisbane and Portland. The superphosphate plants at Geelong and Newcastle were closed in 2009. Manufactured fertilisers include ammonia, urea, diammonium phosphate (DAP), monoammonium phosphate (MAP), superphosphate, granulated ammonium sulfate (Gran-am), other granulated fertilisers (Granulock products) and fertiliser solutions (EASY Liquids).

To meet demand, local production is combined with imports through Adelaide, Portland, Geelong, Port Kembla, Newcastle, Brisbane, Mackay, Townsville and Cairns.

Fertilisers are sold through an extensive Agent and Dealer network that includes Elders, Landmark, Graincorp, Cooperatives such as Murray Goulburn, and various independents.

In addition to its direct sales across eastern and southern Australia, Incitec Pivot supplies fertilisers in bulk to other Australian fertiliser distributors, and exports fertiliser overseas to the Asia Pacific, the Indian sub-continent and Latin America through its trading arm, Southern Cross International.

Explosive grades of ammonium nitrate and initiating systems are sold in North America and the Asia Pacific region under the name Dyno Nobel. Dyno Nobel's customers are in the mining, quarry, construction, pipeline and geophysical exploration industries.

This Report is confined to agricultural fertilisers sold direct to farmers in Australia through the company's own distribution centres and its agent and dealer network. It excludes:

- Fertilisers supplied in bulk to other Australian distributors;
- Fertiliser exports;
- Industrial chemicals;
- Explosives.

In round figures, Incitec Pivot typically produces and imports around three million tonne of fertiliser per annum within Australia. About two thirds of this (one and a half to two million tonne) is sold through the company's fertiliser distribution network under the Incitec Pivot brand name. One Dealer, Grow Force, is also supplied with products in packages bearing its own brand name. Sales to Grow Force and the packaging that is used are included in this report.

Incitec Pivot fertilisers are marketed in a range of packaging to suit customer needs, including bulk, intermediate bulk containers and small packs (ranging in size from 20 to 50 kg). The latter are used where fertilisers have to be manually handled.

Incitec Pivot does not intentionally market into consumer markets. The company does not produce a range of fertilisers specifically for sale through supermarkets and grocery chains, hardware stores and nurseries for use in the home garden. The focus is on agriculture. The company's resellers are appointed to service rural markets, not domestic situations.

However, a small part of the fertiliser sold in small packs does find its way indirectly into consumer markets through reseller and distribution outlets in rural towns and on the outskirts of large metropolitan centres.

It is for this reason that Incitec Pivot reports annually to the National Packaging Covenant.

The industrial chemicals and explosives marketed by Incitec Pivot and Dyno Nobel do not inadvertently find their way into consumer markets and are excluded from this report.

## 2. Environment & Community

Incitec Pivot's Health, Safety, Environment and Community (HSEC) Policy states that the company will:

- Conduct our operations in compliance with all relevant environmental licences and regulations.
- Promote the efficient use of resources and energy.
- Strive to minimise our impact on the environment.
- Strive to be a valued corporate citizen in the communities in which we operate.
- Respect our neighbours, their values and cultural heritage, and be considerate to them in carrying out our operations.

## 3. Financial Results

Incitec Pivot's financial year is from 1 October to September 30.

At the time of preparation and submission of this report, financial results for the 2008-09 financial year were not available.

Incitec Pivot's Net Profit after Tax in 2007-08 was \$657 million.

The sales and packaging data presented in this Report is not based on the company's financial year. It is based on the National Packaging Covenant reporting year from July to June, or on calendar years.

## 4. Domestic Fertiliser Sales

Incitec Pivot sold a little less than 1.5 million tonnes of fertiliser in 2008-09 through its own distribution network. Demand was down on recent years, in which Incitec Pivot has been selling around 2 million tonnes of fertiliser per annum. This was attributable to a reaction to higher fertiliser prices that prevailed through this period, seasonal conditions and competition.

Incitec Pivot sells fertiliser indirectly through Dealers, or directly through Agents and company owned and operated distribution centres to end-users (farmers) who have accounts with the company.

Most of this fertiliser is sold as solids, though some is supplied as fluids (liquefied gases and solutions). The breakdown of fertiliser sales by major product group is shown in Table 1.

*Table 1:*

*Incitec Pivot Sales of Fertiliser from July 2008 to June 2009 through Dealers, Agents and Direct to Farmers.*

<b>Product Group</b>	<b>Tonnes</b>
Anhydrous Ammonia	54 866
Solutions	44 873
Solid Fertilisers (excluding Phosphogypsum)	1 362 657
TOTAL (excluding Phosphogypsum)	1462 396
Phosphogypsum	44 760

Most of this fertiliser was sold under the Incitec Pivot brand name.

There is a long-standing agreement with one of the company's Dealers, Grow Force, to supply fertiliser to them in their own packaging. Incitec Pivot sources this packaging on Grow Force's behalf. Both the product and packaging supplied to Grow Force are covered in this Report. These sales are not treated differently to sales to other customers.

Phosphogypsum is a by-product of the manufacture of phosphoric acid and high analysis phosphorus fertilisers. It was produced at Newcastle and Brisbane up to 1990. The last of the stockpile that remained in Brisbane was sold during 2008-09. Phosphogypsum was used as an agricultural soil ameliorant and was only available in bulk. It has been

excluded from discussion in this Report relating to the packaging of solid fertilisers, as it is not relevant, and its inclusion would make future comparisons with historical data less meaningful.

Phosphogypsum is produced at Phosphate Hill in northwest Queensland, but these stocks are too remote to be of use in agriculture as transport costs are prohibitively high.

## 5. Consumer Sales

Typically, 1.5 – 2 million tonne of solid fertilisers is sold by Incitec Pivot through Dealers, Agents and direct to farmers each year.

Of this, it is estimated that 0.1% or around 2 000 t is used by home gardeners.

This product is purchased in 20 – 50 kg packs from rural outlets in country towns and market garden areas adjacent to metropolitan centres.

## 6. Fertiliser Packaging

Solid fertilisers are mostly supplied in Bulk or Flexible Intermediate Bulk Containers (FIBCs).

About 5% is sold in 50, 40 25 and 20 kg packs.

Anhydrous ammonia is supplied in bulk only, as a liquefied gas.

Liquid fertiliser solutions are supplied in Bulk or Intermediate Bulk Containers (IBCs). The latter are of a rigid construction and have a long life.

This report focuses on the packaging used for solid fertilisers.

## 7. Packaging Materials

FIBCs and small packs are made from woven polypropylene (WPP), chosen because of its robustness and the protection it provides to the product.

Most small packs have a sewn polyethylene liner.

## 8. Solid Fertiliser Sales

In 2008-09, close to 80% of Incitec Pivot solid fertilisers (excluding Phosphogypsum) was supplied in bulk.

A little over 15% was supplied in FIBCs, usually of one tonne capacity. Both Single Trip and Returnable FIBCs were used. Single Trip FIBCs made up less than 5% of the combined total.

5% was supplied in small packs (50, 40, 25 and 20 kg).

Sales of solid fertilisers (excluding Phosphogypsum) in 2008-09 by pack size are detailed in Table 2.

**Table 2:**  
**Incitec Pivot Sales of Solid Fertilisers (excluding Phosphogypsum) by Pack Size from July 2008 to June 2009**

Packaging	Tonnes	%
Bulk (excluding Phosphogypsum)	1 069 977	78.5
Returnable/Limited Trip FIBCs	219 138	16
Single Trip FIBCs	4 547	0.5
Small packs – 20 to 50kg	68 995	5
TOTAL (excluding Phosphogypsum)	1 362 657	100

The promotion of bulk and intermediate bulk handling systems minimises the overall use of packaging.

## 9. FIBCs

Flexible Intermediate Bulk Containers (FIBCs), commonly referred to in the agricultural market as Bulk Bags, are popular as they are convenient, eliminate manual handling and provide cost savings.

The promotion and use of Returnable and Limited Trip FIBCs over Single Trip FIBCs reduces the total amount of packaging required.

Single trip FIBCs (and small packs) are used once and then disposed of.

Returnable and Limited Trip FIBCs have a finite life.

Returnable FIBCs are taken out of service after three years or should an inspection reveal the FIBC is damaged and no longer suitable for use.

Limited Trip FIBCs are disposed of after they have been used either five or ten times (depending on the type of bag).

Returnable and Limited trip FIBCs are fitted with a number of loops or attachment points that require farmers to invest in lifting plates to attach the bag to their jibs.

Single Trip FIBCs have a Single Loop that can be attached directly to the jib.

Incitec Pivot has developed a Returnable FIBC, known as the Versalift Bag, which can be lifted by either a four point or a single point lifting system. This provides farmers with more flexibility.

It is intended over the coming years to make the Versalift Bag more readily available throughout the marketplace, with the eventual intention of replacing most if not all other types of Returnable and Limited Trip FIBCs with it.

The promotion of intermediate bulk handling systems (and the release of the Versalift Bag) has seen the % of packaged solid fertiliser sales in Returnable and Limited Trip FIBCs increase, while sales in Single Trip FIBCs and small packs have fallen.

**Table 3. Percentage (%) of Incitec Pivot Bagged Fertiliser Sales by Pack Size, Calendar 2003 to 2008**

Pack Size	2002	2003	2004	2005	2006	2007	2008
Bulk Bags – Returnable/Limited Trip	57	58	62	63	72	71	74
Bulk Bags - Single Trip	10	9	9	9	3	2	2
Small packs (20,25, 40 & 50 kg)	33	33	29	28	25	27	24

The percentage of packaged solid fertiliser sold in non-returnable (single trip) FIBCs has fallen from 10% in 2002 to 2% in 2008.

The percentage of packaged solid fertiliser sold in 20 - 50 kg packs has fallen from 33% in 2002 to around 25 % in recent years.

Small packs (20, 25, 40 and 50 kg) make up about 5% of the total solids supplied.

## 10. Disposal of Used Packaging to Land-Fill

Very little of the packaging used by Incitec Pivot is disposed of to land-fill.

Incitec Pivot maintains ownership of Returnable and Limited Trip FIBCs during their working lives. They remain the property of Incitec Pivot and are returned to the company after use. A deposit is paid on the bags, which is refunded on their return.

Incitec Pivot does not dispose of spent FIBCs to land-fill when they are taken out of service. They are being recycled (as explained in Section 11).

Single Trip FIBCs become the property of the user at the time of sale, but Incitec Pivot does accept their return for disposal.

Used small packs (20 – 50 kg) are generally disposed of on farm, though some of these packs are used for other purposes, e.g. sandbags. Kerb-side collection services are generally not available in rural areas, so this packaging is unlikely to find its way to land-fill.

In Tasmania, Incitec Pivot has a commercial arrangement with Gunns Limited to take back used 25 kg packs. These packs are recycled in the same way as are spent FIBCs.

A small proportion of the company's total fertiliser sale, approximately 2 000 tonne per annum, is used in the consumer market rather than the agricultural market, i.e. by home gardeners. The packaging from this product may be disposed of to land-fill through urban waste collection services. About five tonne of packaging is involved.

## 11. Recycling

There are presently no recycling schemes for WPP in Australia. WPP is not accepted as a recyclable waste through kerbside recycling schemes, and other outlets are presently not available.

Rather than dispose of spent Returnable FIBCs to land-fill, Incitec Pivot has investigated opportunities to dispose of these off-shore. They are presently being sent to China where they are used in the production of new bags.

Incitec Pivot also accepts back one trip FIBCs from farmers as part of this recycling program.

Grow Force FIBCs are part of this recycling scheme.

Small (20 - 50 kg) packs are not accepted. It is not practical to collect and recycle these packs from farm. These packs are also of mixed construction, most having a WPP outer and sewn polyethylene liner.

An exception to this rule is Gunns Limited in Tasmania, who use 25 kg packs in their forestry plantations. Arrangements have been made for these packs to be returned and recycled along with spent FIBCs.

Incitec Pivot is presently recycling around one third of the packaging that it uses.

In 2008-09, it is estimated that Incitec Pivot used 504 t of WPP packaging on solid agricultural fertilisers. This excludes packaging for liquid fertilisers and industrial chemicals.

73 657 Limited Trip and Returnable FIBCs were taken out of service for export to China for recycling in 2008-09. This includes both Incitec Pivot and Grow Force FIBCs.

At an average weight of 4 kg, the weight of the recycled bags amounts to 295 t.

This represents a recycling rate of a little less than 60 %.

This is up on the two previous years, when the recycling rate was between 30 and 40%.

The 2008/09 figure is inflated as 17 070 FIBCs were taken out of service prematurely as they were deemed to be faulty, and would not last their intended life span.

A recycling rate of 60% is therefore atypical and not representative of the long term average.

The cost of the recycling program is \$1 per bag, a cost that Incitec Pivot has chosen to bear rather than see spent bags disposed of to land-fill.

## 12. Achievements

Incitec Pivot, being a Brand Owner, is required to address Key Performance Indicators (KPIs) 1, 3, 4, 6, 16, 21, 22, 26, 27, 28 and 29.

### KPI 1.

#### Total Weight of Consumer Packaging

#### Ratio of Product to Packaging by Weight

Actions	Performance Target	Responsibility	Timeline
Measure: Weight of solid fertilisers supplied in: <ul style="list-style-type: none"> <li>• Bulk</li> <li>• FIBCs</li> <li>• Small Packs (20 - 50 kg)</li> </ul> Weight of Packaging used for: <ul style="list-style-type: none"> <li>• FIBCs</li> <li>• Small Packs</li> </ul> Determine following ratios: <ul style="list-style-type: none"> <li>• Weight of all solid fertilisers:Weight of all packaging</li> <li>• Weight of fertiliser supplied in FIBCs:Weight of FIBCs</li> <li>• Weight of fertiliser supplied in small packs:Weight of packaging</li> </ul>	Data from 2006/07, the first year of reporting to the NPC, will be used as a benchmark. i) Ratio of all solid fertiliser to weight of all packaging is largely determined by customer buying patterns and preferences (for bulk, etc.). ii) Ratio of fertiliser supplied in FIBCs to weight of FIBC packaging will be the most important factor to monitor, as it illustrates how well Returnable FIBCs are being utilized. iii) Ratio of fertiliser supplied in small packs to weight of packaging is fixed.	Supply Contract Manager;  Demand Planning Manager;  Market Managers;  Operations Managers;  Distribution Managers.	Report annually for the NPC's reporting year (July – June).

#### i) Product Weight

Sales of solid fertiliser (tonnes) excluding Phosphogypsum under the Incitec Pivot and Dealer Brand Names in 2008-09 are shown in Table 4.

**Table 4. Incitec Pivot solid fertiliser sales (excluding Phosphogypsum) by pack size in 2008-09.**

Pack Size	Tonnes
Bulk (excluding Phosphogypsum)	1 069 977
FIBCs	
Returnable	219 138*
Single Trip	4 547
Total	223 685
Small Packs	
50 kg	28
40 kg	58 325
25 kg	10 594
22.7 kg (50 lb)	34
20kg	14
Total	68 995
<b>TOTAL (excluding Phosphogypsum)</b>	<b>292 680</b>

\* Includes 2,633 t in FIBCs that were purchased and supplied by Dealers (other than Grow Force).

## ii) Weight of Packaging

### FIBCs

Pack weights for Returnable and Limited Trip One Tonne FIBCs range from 2.6 to 5 kg, with the average weight being a little less than 4 kg.

### Returnable FIBCs

The most commonly used Returnable FIBCs have an effective working life of three years before being taken out of service. The FIBCs are inspected before reuse, and if damaged and beyond repair, are disposed of earlier.

As these bags have a life of three years, the actual weight of these packages in use in 2008/09 has been determined by adding all purchases over the three year period from 1 July 2006 to 30 June 2009, and dividing the sum by three.

**Table 5. Estimated weight of Returnable FIBC Packaging used by Incitec Pivot in 2008-09.**

Type of Returnable FIBC	Number ordered from 1/7/06 to 30/6/07	Number ordered from 1/7/07 to 30/6/08	Number ordered from 1/7/08 to 30/6/09	Annual Average	Bag Weight (kg)	Annual Total (t)
Half Tonne	3 500	3 810	1 510	2 940	3.0	8.8
One Tonne*	38 490 (32 800)	32 670 (26 980)	43 580	38 245 (34 453)	3.5	133.9 (120.6)
One Tonne Versalift	30 240	26 120	21 700	26 020	5.0	130.1
TOTAL						272.8 (259.5)

\* The volume of one tonne returnable FIBCs purchased in 2008/09 increased over previous years as it included 17 070 replacement bags for stock that was deemed as faulty and would not last the 3 year life span. It is assumed that the bags taken out of service were drawn evenly from the previous three years – 2005/06 to 2007/08. Hence the total number of bags for 2006/07 and 2007/08 have been reduced by 5 690 bags per annum. The revised figures are shown in brackets.

### Limited Trip FIBCs

Limited Trip Bags have been used in Tasmania. These bags were used up to ten times before being taken out of service. Their typical working life is three years. These bags are being phased out of service and replaced with Returnable FIBCs. None were purchased in 2008/09.

**Table 6. Estimated weight of Limited Trip FIBC Packaging used by Incitec Pivot in Tasmania in 2008-09.**

Type of Limited Trip FIBC	Number ordered from 1/7/06 to 30/6/07	Number ordered from 1/7/07 to 30/6/08	Number ordered from 1/7/08 to 30/6/09	Annual Average	Bag Weight (kg)	Annual Total (t)
Half Tonne	2 050	0	0	683	2.2	1.5
One Tonne	3 100	3 800	0	2 300	2.6	6.0
TOTAL						7.5

A 1.2 Tonne Limited Trip FIBC is also used throughout the market place. This FIBC can be used up to five times.

3 250 of these packs were purchased in 2008/09.

Weighing 2.8 kg, the combined weight of these FIBCs was 9.1 t.

The total weight of Limited Trip FIBCs used on the Mainland and in Tasmania in 2008-09 was 16.6 t.

### Returnable plus Limited Trip FIBCs

The total weight of Returnable plus Limited Trip FIBCs attributed to the 2008/09 year is estimated to be 276.1 t.

### Single Trip FIBCs

4 547 t of fertiliser was sold in 2008/09 in Single Trip FIBCs, which have a typical weight of 2.7 kg.

The combined weight of this packaging is 12.3 t.

This excludes single trip bags used for industrial products, which are not part of this study.

### Total Weight of all FIBC Packaging

(Returnable, Limited trip and Single Trip FIBCs)

Returnable	260 t
Limited Trip	17 t
Single Trip	12 t
Total	289 t

### Small Packs (25 – 50 kg)

The weight of packaging used for products sold in small packs is shown in the following table.

**Table 7. Estimated Weight of Packaging used for Fertilisers despatched in Small Packs in 2008-09.**

Pack Size	Tonnes of Fertiliser	Number of Packs per Tonne	Total Number of Packs	Typical Pack Weight (g)	Combined Weight (t)
50 kg	28	20	560	150	0
40 kg	58 325	25	1 458 125	125	182
25 kg*	10 642	40	425 680	80	34
TOTAL					216

\* Includes 22.7 kg (imported product packed in 50 lb bags) and 20 kg packs.

### Grand Total

(FIBCs and Small Packs)

**Table 8. Total Weight of Packaging used by Incitec Pivot for Fertilisers in 2008-09.**

Pack Type	Weight (tonnes)
Returnable and Limited Trip FIBCs	276
Single Trip FIBCs	12
Small Packs (25 – 50 kg)	216
TOTAL	504

### iii) Product to Packaging Ratios

Product to Packaging ratios for solid fertilisers (excluding Phosphogypsum which is only available in bulk) are shown in Table 9.

**Table 9. Product to Packaging Ratios by Weight**

<b>Ratio</b>	<b>Tonnes of Product*</b>	<b>Tonnes of Packaging</b>	<b>Ratio</b>
Total weight of all solid fertilisers, including bulk, to total weight of packaging.	1 362 657	504	2 704
Weight of fertiliser supplied in packages (FIBCs and small packs) to total weight of packaging.	292 690** (290 047)	504	581 (575)
Weight of fertiliser supplied in FIBCs to weight of FIBC packaging.	223 685** (221 052)	289	774 (765)
Weight of fertiliser supplied in 20 - 50 kg packs to weight of packaging.	68 995	216	319

\* Excludes Phosphogypsum, which is only available in bulk.

\*\* Includes 2 633 t in FIBCs that were purchased and supplied by Dealers (other than Grow Force). Figures in brackets denote corrected data.

### iv) Comparison with Previous Years.

2008-09 was the third year for which this data was collated.

A comparison with previous years is shown in the following table.

**Table 10. Comparison of Ratios with Previous Years**

<b>Ratio</b>	<b>Ratio</b>		
	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>
Total weight of all solid fertilisers, including bulk, to total weight of packaging.	2 931	2 740	2 704
Weight of fertiliser supplied in packages (FIBCs and small packs) to total weight of packaging.	665* (653)	561* (557)	581* (575)
Weight of fertiliser supplied in FIBCs to weight of FIBC packaging.	1 060* (1 034)	748* (739)	774* (765)
Weight of fertiliser supplied in 20 - 50 kg packs to weight of packaging.	320	319	319

\* Includes FIBCs that were purchased and supplied by Dealers (other than Grow Force). Figures in brackets denote corrected data.

The Product to Packaging Ratios in general and those for FIBCs have been down somewhat for the past two years.

This reflects lower overall demand for fertiliser compared to three years ago, so less use has been made of the returnable FIBCs on hand.

The Product to Packaging Ratio for small packs of 20 – 50 kg capacity will remain fixed while ever the current packages and weights remain in vogue.

### KPI 3.

#### Improvements in Design, Manufacture, Marketing and Distribution

Actions	Performance Target	Responsibility	Timeline
Measure percent of solid fertilisers supplied in: <ul style="list-style-type: none"> <li>• Bulk</li> <li>• FIBCs</li> <li>• Small Packs (20 - 50 kg)</li> </ul> and <ul style="list-style-type: none"> <li>• Percent of FIBCs in Returnable Bags.</li> </ul>	<ul style="list-style-type: none"> <li>• Bulk plus FIBCs &gt; 95%</li> <li>• Small Packs &lt; 5%</li> <li>• % FIBCs in returnable bags &gt; 95%</li> <li>• % FIBCs in single trip non-returnable bags &lt;5%</li> </ul>	Market Managers;  Demand Planning Manager.	Report annually for the NPC's reporting year (July – June).

#### i) Percent Bulk and Intermediate Bulk Vs Small Packs

The combined total of solid fertiliser despatched in bulk and intermediate bulk (FIBCs) is presently around 95% with about 5% supplied in small packs (20 – 50 kg).

Seasonal conditions and commodity prices affect demand for fertiliser and are responsible for much of the variation in demand, and the proportion of fertiliser despatched in Bulk compared to FIBCs (Flexible Intermediate Bulk Containers). Variations from year to year generally reflect market conditions rather than changes in buying patterns.

Fertilisers supplied to the broadacre grain market and for use on extensive legume based pastures (mostly superphosphate) are generally supplied in bulk.

FIBCs are the norm in the sugarcane, horticulture and dairy pastures markets.

The proportion of the total amount of fertiliser sold that is supplied in small packs is relatively constant at around 5%. This product is mainly used on smallholdings and in horticulture.

**Table 11: Sales (000 t) of Incitec Pivot Branded Solid Fertilisers (Calendar 2006 to 2008) and % by Pack Size.**

Packaging	2006		2007		2008	
	kt	%	kt	%	kt	%
Bulk	1 679	80	1 465	79	1 458	83
FIBCs	313	15	280	15	236	13
Small packs – 20 to 50kg	106	5	106	6	74	4
TOTAL	2 099	100	1 851	100	1 767	100

#### ii) Percent Returnable Vs Single Trip FIBCs

The promotion of Returnable FIBCs, and the introduction of a Single Loop Returnable FIBC, i.e. the Versalift Bag, has seen the proportion of FIBCs supplied in returnable bags increase over the past five years.

The use of single trip non-returnable FIBCs, as a percent of the total despatched in FIBCs, has fallen from 15% of the total in 2002 to 2% in 2008.

**Table 12. Sales of Incitec Pivot Fertiliser in FIBCs – % Returnable Versus % Single Trip Bags. Calendar 2002 to 2008.**

Pack Size	2002	2003	2004	2005	2006	2007	2008
Bulk Bags - Returnable	85	87	87	88	95	97	98
Bulk Bags - Single Trip	15	13	13	12	5	3	2

**KPI 4.**  
**Changes in Supply Chain that affect Packaging**

<b>Actions</b>	<b>Performance Target</b>	<b>Responsibility</b>	<b>Timeline</b>
A move from 40 and 50 kg packs to 20 and 25 kg packs by or in 2010 is being considered at the major distribution centres at Brisbane and Geelong. The feasibility of using polyethylene packaging instead of WPP for these smaller pack sizes will be considered at the same time.	Potential replacement of WPP with Polyethylene packaging may result in a reduction in the overall weight of packaging used for small packs.	Operations Managers; Market Managers; Supply Contract Manager.	Report progress in 2009/2010 Annual Report.

In 2008-09, 40 kg packs accounted for 85% of the fertiliser Incitec Pivot sold in small packs (20-50 kg). Very little product was supplied in 50 kg packs.

For Occupational Health and Safety reasons, a change from 40 and 50 kg packs to smaller and lighter 20 - 25 kg packs is being considered, but such a change is unlikely to be made in the period covered by the current National Packaging Covenant, i.e. by 2009/10. Capital investment in new bagging lines will be required at the company's major distribution facilities.

The Fertilizer Industry Federation of Australia (FIFA) is targeting the implementation of a maximum package size of 25 kg for manual handling to apply from 1 July 2010.

The adoption of smaller pack sizes may allow polyethylene packaging to be used instead of WPP, which is the preferred packaging material for the larger 40 and 50 kg packs.

**KPI 6.**  
**Non-Recyclable Packaging**

<b>Actions</b>	<b>Performance Target</b>	<b>Responsibility</b>	<b>Timeline</b>
The WPP packaging used by Incitec Pivot is non-recyclable in Australia, but that used in the form of FIBCs is recovered. Returnable FIBCs that have been taken out of service and single trip FIBCs that are returned by farmers are exported to China for recycling. The weight of FIBC packaging sent to China will be documented, and expressed as a percentage of the total weight of WPP packaging used each year.	The percentage of the total amount of WPP packaging that is recycled will be benchmarked against 2006/07.	Market Managers, Supply Contract Manager; Distribution Managers.	Report annually for the NPC's reporting year (July – June).

WPP packaging is not recyclable in Australia. Incitec Pivot, however, is recycling about one third of the WPP packaging that it uses by exporting spent FIBCs to China.

The total weight of WPP packaging purchased for solid fertilisers for the domestic fertiliser market in 2008/09 was 504 tonne. Packaging used for liquid fertilisers and industrial chemicals is not included in this figure. The weight of spent FIBC packaging exported to China for recycling was 295 t. This represents a recycling rate of 59 %.

This figure is inflated as 17 070 FIBCs were taken out of service prematurely in 2008-09 as they were deemed to be faulty, and would not last their intended life span. It is atypical and not representative of the long term average which is in the range of 30 – 40 %.

Comparative figures over the past three years are shown in Table 13.

**Table 13. Percent of WPP packaging used each year that is recycled.**

<b>Year</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
<b>Percent</b>	38	31	59

The conversion of small pack users to FIBCs will improve the recycling percentage.

Incitec Pivot does not accept back used packaging from fertilisers sold in 20 - 50 kg packs.

## KPI 16.

### Post-Consumer Recycling Facilities

Actions	Performance Target	Responsibility	Timeline
<p>Incitec Pivot does not distinguish between waste derived from used packaging and that derived from other sources. All like waste is treated the same. Used packaging makes up a very small part of the total.</p> <p>Current collection facilities for recyclable paper and various other recyclable materials used on site will be reviewed at major manufacturing sites, distribution centres and offices. Opportunities for enhancement will be investigated.</p>	<p>Sites to be reviewed include Head Office (Melbourne), Brisbane, Geelong, Portland, Newcastle, Adelaide, Townsville, Cairns and Mackay.</p>	<p>Operations Managers; Distribution Managers; Site Managers; Environment &amp; Community Manager.</p>	<p>Annual updates on progress.</p>

The raw materials and finished products sourced by Incitec Pivot are handled in bulk, e.g. phosphate rock, sulfuric acid, urea, calcium ammonium nitrate, high analysis phosphorus fertilisers, potash and compound fertilisers. Hence there is relatively little packaging to dispose of.

Some trace element and speciality fertilisers are sourced in FIBCs. These may be on-sold, or used internally, e.g. in fertiliser blends. FIBCs that are used for the latter purpose are disposed of along with other spent FIBCs, i.e. exported to China for recycling.

Some trace element and speciality fertilisers are also pre-packaged in small packs, e.g. 25 kg. These are on-sold as is. Waste is not generated at Incitec Pivot's distribution sites as a result of this activity.

Hence the main packaging waste that is generated is cardboard from pre-packaged goods that are used on-site.

24 tonne of paper and cardboard was collected at Brisbane in 2008-09. Brisbane is the site of one of the company's largest offices, and much of this waste was comprised of paper rather than cardboard.

Paper and cardboard are also collected at several other facilities for recycling, e.g. through local charities. Weights are not recorded.

Waste collection and recycling programs for other forms of waste are in place at many of the company's sites.

Incitec Pivot's two largest manufacturing sites are Brisbane and Southern Cross Operations. The latter is located at Phosphate Hill in northwest Queensland.

Collection procedures for recyclable waste are in place at Brisbane, but not at Southern Cross Operations, given its remote location and distance from recycling facilities.

**KPI 21.**  
**Packaging to Land-Fill or Recycled**

<b>Actions</b>	<b>Performance Target</b>	<b>Responsibility</b>	<b>Timeline</b>
The quantity of wastes generated at major manufacturing sites that have implemented recycling procedures will be recorded, along with the quantities that are recycled, sent to land-fill or disposed of in other ways. Note. Recycling is not possible at the Southern Cross Operations site at Phosphate Hill in northwest Queensland, due to its remoteness.	All major sites, with the exception of Southern Cross Operations, to record data from July 2008.  As noted under KPI 16, separate data is not available on packaging waste, so specific targets for the disposal of used packaging cannot be set.	Operations Managers;  Distribution Managers;  Site Managers;  Environment & Community Manager.	Annual updates on progress.

During 2008/09, Incitec Pivot commenced a more robust system of collecting data and reporting on waste generation and disposal at its major sites. Results are to be reported in the company's annual Sustainability Report, commencing with the 2008/09 company financial year.

Incitec Pivot has two major manufacturing facilities, one in Brisbane, the other at Phosphate Hill in north-west Queensland (Southern Cross Operations).

At Brisbane, data is presently being recorded on the following solid wastes:

- Paper/Cardboard
- Used Toners/Print Cartridges
- Steel
- Aluminium
- General

Plastics and glass are not separated. They are disposed of in mixed bins.

Due to its remoteness, recyclables are not collected at Phosphate Hill.

**KPI 22.**  
**Formal Adoption of ECoPP**

<b>Actions</b>	<b>Performance Target</b>	<b>Responsibility</b>	<b>Timeline</b>
Promote awareness of EcoPP (Environmental Code of Practice for Packaging) throughout company. Adoption of Guidelines.	Incitec Pivot has accepted and is committed to the Environmental Code of Practice for Packaging.	Environment & Community Manager; Product Stewardship Manager.	NA

Incitec Pivot is committed to the Environmental Code of Practice for Packaging. The key strategies in the EcoPP are addressed as follows:

Source Reduction

The quantity of packaging used is minimised by promoting bulk and intermediate bulk handling systems.

Potential for Reuse

Returnable and Limited Trip FIBCs make up more than 95% of the total tonnage of fertiliser despatched in bulk bags.

Less than 5% of the tonnage of fertiliser supplied in FIBCs is in Single Trip Bags.

Small packs (20 – 50 kg) can not be reused.

### Recovery and Recycling

FIBCs are recovered at the end of their working lives and are exported to China for recycling.

### Ability to Incorporate Recycled Content

The Woven Polypropylene (WPP) packaging (FIBCs and small packs) used by Incitec Pivot is new and does not have a recycled content. This provides extra strength and durability in agricultural markets.

### Minimising Impacts of Packaging

WPP is used to minimise the risk of tears and spills. Losses of containment result in a monetary loss, but also have the potential to cause environmental harm, e.g. through contamination of waterways.

### Propensity to Become Litter

Returnable FIBCs are exported to China for recycling after being taken out of service.

If this was not done, these bags would be disposed of to land-fill.

Single trip non-returnable FIBCs are also accepted back for recycling.

There is no recycling scheme for WPP small packs (20 - 50 kg). Special arrangements, however, have been made with Gunns Limited for the return of 25 kg packs used in forestry plantations in Tasmania.

Small packs used in agriculture are disposed of on farm, though some are used for other purposes, e.g. sand-bags.

It is estimated that about 2% of the fertiliser supplied by Incitec Pivot in small packs is used by home gardeners. This packaging may potentially be disposed of to land-fill in household refuse.

Incitec Pivot is considering a move from 40 and 50 kg packs (40 kg packs are the most commonly- used pack size at the present time, making up 85% of the volume), to 20 - 25 kg packs, which are easier to lift and handle.

Incitec Pivot will investigate whether Polyethylene packaging can be used instead of WPP in these smaller pack sizes.

### Consumer Information

Apart from promoting the benefits of using Bulk and Returnable FIBCs, no environmental claims are made about the packaging used by Incitec Pivot.

## **KPI 26.**

### **Buy Recycled Policy**

<b>Actions</b>	<b>Performance Target</b>	<b>Responsibility</b>	<b>Timeline</b>
WPP packaging is mostly imported. WPP packaging with a recycled content is not purchased so that the safety, strength, durability and life expectancy of the packaging used in Australia is not compromised.	NA	NA	NA

The vast majority of the WPP packs (FIBCs and small packs) used by Incitec Pivot are manufactured overseas and imported, with some being printed locally.

These packs are new and do not have a recycled component in order to meet strength, durability and safety expectations for packs holding up to 1.25 t.

**KPI 27.**  
**Baseline Data**

<b>Actions</b>	<b>Performance Target</b>	<b>Responsibility</b>	<b>Timeline</b>
Data presented in Tables 2, 3 and 4 in this Action Plan is to be updated annually.	Information to be reported annually under KPI 1, KPI 3 and KPI 6.	Product Stewardship Manager.	NA

Historical data by calendar year dating back to 2002 is presented in Tables 3 and 12.

Data for the current year (2008-09) is shown in tables 1 - 2 and 4 – 9.

Comparative data from different years after becoming a signatory to the NPC is shown in tables 10, 11 and 13.

**KPI 28.**  
**Annual Reporting Against Plan**

<b>Actions</b>	<b>Performance Target</b>	<b>Responsibility</b>	<b>Timeline</b>
Collate and analyse data. Prepare Reports.	- Annual Report to the National Packaging Covenant; - A précis for the Incitec Pivot Annual Report and/or HSEC (Health, Safety, Environment and Community) Annual Report.	Product Stewardship Manager; Group HSEC Systems Administrator.	NPC Report to be submitted by 31 October each year, IPL Reports shortly afterwards.

The company became a signatory to the National Packaging Covenant in May 2007, and has reported each year since, this being the third annual report.

Public reporting will be via the company's Annual Report and HSEC (Health, Safety, Environment and Community) Report. Incitec Pivot's financial year runs from October to September.

**KPI 29.**  
**Demonstrate Improvement**

Actions	Performance Target	Responsibility	Timeline
Monitor and report annual changes in <ul style="list-style-type: none"> <li>• Adoption of Bulk and FIBCs;</li> <li>• Ratio of the weight of fertiliser supplied in FIBCs to the weight of the FIBC packaging used;</li> <li>• The amount of packaging that is being recycled.</li> </ul>	Information to be reported annually under KPI 1, KPI 3 and KPI 6.	Product Stewardship Manager.	NA

Much has been done to minimise packaging and waste, and Incitec Pivot's position is now one of consolidation.

Incitec Pivot markets its products in a range of smaller pack sizes to meet varying customer needs, but encourages the use of Bulk and Returnable FIBCs. Bulk and intermediate bulk handling systems (FIBCs) account for about 95% of the company's fertiliser sales. Around 5% is sold in small packs (20 – 50 kg).

Since 2002 the percentage of solid packaged fertilisers that was sold in small packs (20-50 kg) has fallen from approximately one-third (33%) to about 25% (one quarter) of the total while that supplied in FIBCs has increased from approximately two-thirds (67%) to three-quarters (75%).

The percentage of the fertiliser supplied in FIBCs in Single Trip (non-returnable) bags was 15% in 2002. That figure is now below 5%, i.e. less than one tonne in twenty. This is attributable to the promotion of returnable bulk bags in general, and the development and introduction of the Single Loop Returnable Versalift Bag.

Incitec Pivot collects and exports spent FIBCs off-shore, resulting in about one third of the WPP packaging that it purchased each year being recycled. WPP is not recycled in Australia.

Specifically, Incitec Pivot will strive to:

- Maintain the percentage of solid fertilisers supplied in bulk or FIBCs at or above 95%;
- Supply 95% or more of the fertiliser despatched in FIBCs in Returnable Bags, with 5% or less in Single Trip Bags;
- Improve the utilization of Returnable FIBCs (number of uses per annum);
- Monitor recycling rates achieved with woven polypropylene packaging.

Incitec Pivot will determine whether materials other than woven polypropylene can be used for small packs of 20 - 25 kg capacity should they replace existing 40 and 50 kg packs in 2010.