



Pharmaceutical Ireland

# Responsible Care Report 2013



PHARMA  
CHEMICAL  
IRELAND



Responsible Care®  
OUR COMMITMENT TO SUSTAINABILITY



A business sector within IBEC | the Irish Business and Employers Confederation





## Chairman's Foreward    PharmaChemical Ireland

It is a pleasure to review and comment on the collective performance of PharmaChemical Ireland members in the area of environment, health & safety (EHS) under the umbrella of Responsible Care. The performance achieved by our industry is in part due to the individual member companies who take Responsible Care to heart in their operations and in part due to the significant focus the EHS working group brings to it. Congratulations to all of you who have contributed to the results contained in this report, your efforts are greatly appreciated.

2013 was finally the year that the uncertainty in global markets started to abate. The figures in this year's report (for the years 2010 – 2012) show that the number of people working directly in the Irish pharmaceutical industry has stabilised and indeed we have recorded a 10% increase in production volumes over the three years in question. The coming years will continue to bring many challenges but Pharmacemical Ireland will continue to use Responsible Care as a core differentiating activity. Amongst Pharmacemical Ireland member companies, Responsible Care is acknowledged as the fundamental non-corporate Environmental, Health and Safety initiative contributing positively to our employees and the communities in which we operate. We will continue to encourage all our members to reinforce their efforts to achieve the very best in their EHS commitments.

I would also like to acknowledge the effort of all of the companies that submitted applications for the 2013 Responsible Care Awards, which were presented at our AGM in October. The winning submissions from MSD Ballydine, Recordati and Rottapharm were amongst a record 15 entries received in 2013. Indeed the calibre of the submission was of such a high standard that we have published them in a separate document entitled 'Good News Stories'. Finally the sector in Ireland was proud and delighted to learn that both Recordati and Rottapharm won European Responsible Care Awards presented at the Cefic AGM, which was held in Munich.

Ours is an industry with a mandate to make peoples lives better. Therefore it is a privilege to be associated with the excellent EHS performance of all of the companies who are members of Pharmacemical Ireland. We continue to have sustainability at the core of our business and we will continue to work hard at maintaining the advantage that the industry in Ireland has. To this extent we look forward to supporting Responsible Care in everything we do.

### **John Nason**

VP Global External Manufacturing. Bristol Meyers Squibb  
Chairman, PharmaChemical Ireland

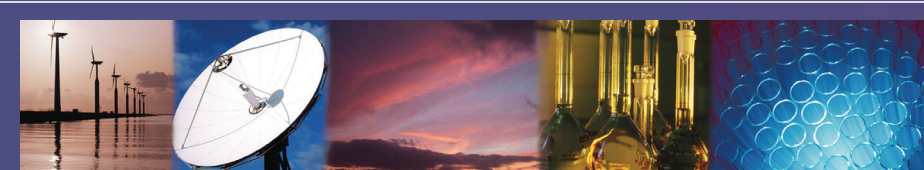
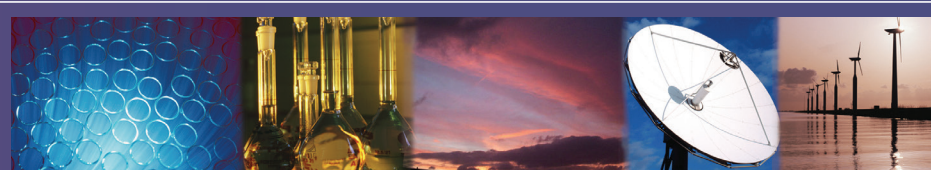




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## Introduction

PharmaChemical Ireland is pleased to present its 2013 annual Responsible Care report outlining the performance of the sector over the previous three years (2010- 2012).

This report follows the Responsible Care ethos and highlights the member companies' commitment and initiatives that were taken to demonstrate continuous improvement of operational performance.

A selection of the various Responsible Care activities is covered in this report including initiatives in communications, the environment and safety.

## What is Responsible Care?

Responsible Care is our commitment to sustainability: the global chemical industry's unique initiative to improve its health, safety and environmental performance.



Responsible Care is the global Chemical industry's environmental, health and safety (EHS) initiative to drive continuous improvement in performance of the pharmaceutical and chemical sector in all aspects, which directly and indirectly impact on the environment, employees or the general public. Responsible Care companies actively strive to maintain leadership in safety and environment performance.

The Responsible Care ethic helps chemical companies to operate safely, profitably and with due care for future generations.

In Ireland each member of PharmaChemical Ireland is expected to voluntarily adopt the following commitments and principles;

- A formal commitment on behalf of each company to a set of Guiding Principles signed, in the majority of cases, by the Chief Executive Officer
- A series of codes, guidance notes and checklists to assist companies to implement the commitment
- The progressive development of indicators against which improvements in performance can be measured
- Ongoing process of communication on health, safety and environment matters with interested parties inside and outside the industry
- Provision of forums in which companies can share views and exchange experiences on implementation of the commitment
- Adoption of a title and a logo which clearly identify national programmes as being consistent with and part of the concept of Responsible Care
- Consideration of how best to encourage all member companies to commit to and participate in Responsible Care
- Systematic procedures to verify the implementation of the measurable (or practical) elements of Responsible Care by the member companies.

Pharmaceutical Ireland manages Responsible Care at a national level; the European Chemical Industry Council (Cefic) manages Responsible Care at an EU level; and the International Council of Chemical Associations manages Responsible Care at a global level.





## Responsible Care Activities in 2013

Each year members of PharmaChemical Ireland seek ways to improve their environmental, health and safety performance. Data submitted in the Responsible Care report is analysed and areas where improvement is needed are identified and programmes put in place to address member needs.

The following are a brief outline of some of the main achievements of Responsible Care in Ireland.

### Communications

- **Sharing Best Practice – Quarterly meetings**

Members of the Responsible Care environment, health & safety group met four times in 2013. The meetings allow members to network and share experiences in all aspects of environment, health & safety matters. Three of the four of the meetings were held on sites and we are very grateful to Janssen Biologics, Allergan Pharmaceuticals and Mallinckrodt Pharmaceuticals for hosting meetings. We are also indebted to MSD Ballydine for hosting our safety culture meeting in May and also for hosting our process safety sub-group meeting in June.

- **EHS updates**

This year we continued with our practice of EHS updates that were circulated throughout the year. A total of 19 updates were released this year. It should be noted that these are in addition to the numerous updates on specific issues such as REACH, financial provisions, contaminated land & groundwater, safety culture amongst others.

### Environment

- **Environmental Protection Agency (EPA) Technical Forum**

PharmaChemical Ireland has established an ongoing technical forum with the Irish EPA which meets on a biannual basis. In addition, PCI meet with the EPA on a number of specific technical issues throughout the year. We met with the EPA 7 times in 2013.

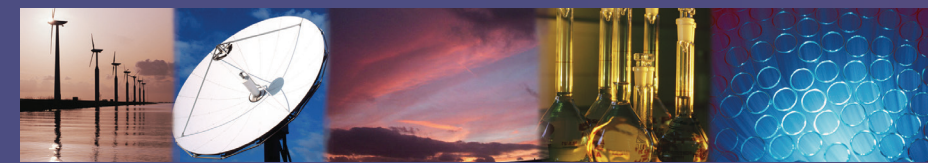
### Health And Safety

- **Health & Safety Authority (HSA)**

The HSA has liaised with PCI on inspection priorities for process industry sites. In addition PCI was represented on the Technical and Scientific Advisory Committee (TSAC) of the HSA. In total we met with the HSA 8 times in 2013.

- **Process Safety Sub-group**

The PSSG met on site once in 2013 and as mentioned earlier, we are very grateful to MSD Ballydine for hosting the meeting. The process safety group also met with the HSA in August to clarify a number of issues pertaining to pressure systems. In addition PCI continues to circulate process safety alerts. These alerts, posted on the PCI website, allow the sharing of information that will prevent similar incidents in other member companies.



## The 2013 Responsible Care Awards

The Responsible Care awards recognise the outstanding achievements of the PharmaChemical Ireland companies in applying Responsible Care to their manufacturing activities. 2013 saw a record 15 entries for the national awards. Indeed the quality of submissions was of such a high standard that all of the submissions received in 2013 have been published as a separate document entitled 'Good News Stories'. This is available on the Pharmaceutical Ireland website.

The winners of the PharmaChemical Ireland Responsible Care Awards for 2013 were MSD Ballydine, Rottapharm Ireland and Recordati.



### MSD Ballydine

MSD Ballydine won an award for the work done in addressing safety culture on the site. One of the critical components of their approach was the development of a bespoke behavioural based safety programme called STAR – Stop, Think, Approach, and Resolve. This addressed the need which was identified to ensure that all personnel on site (be they MSD employees or contractors) felt comfortable and safe approaching anyone who they felt was working in an unsafe manner.



### Rottapharm

Rottapharm won an award for detailing some of the initiatives that they undertook on their path to sustainability. These included campaigns dealing with 'war on waste', 'electrify with energy reduction' and the use of innovative approaches to various IT management systems. One of these has resulted in the elimination of over 870,000 wet signatures and over 138,000 sheets of paper per annum through paperless production, warehousing, QC testing and maintenance management.



### Recordati

Recordati won an award for detailing some of the changes they made on the 5 year journey to energy efficiency. Some of the outcomes include:

**Savings** - the total energy related investment over a 5 year period amounted to €165,400. This generated an annual saving of kWh amounting to between 2 and 3 million kWh with an overall estimated saving of €773,192. The overall Energy Performance Indicator kWh/kg of product decreased from 653 kWh/kg in 2007 to 384 kWh/kg in 2012 – a 42% reduction over 5 years.

**Competitiveness** - The savings in energy costs together with improvements in output helped to develop a positive company-wide outlook. This set the scene to contributing to an increase in turnover (up 26%) and employee numbers (up 35%) in the five year period 2008-2012.

Finally both Rottapharm and Recordati also won European Responsible Care awards which were presented at the Cefic AGM in Munich on 4 October 2013.



## Performance Indicators of the Responsible Care Programme for 2013

Each year member companies report on their performance on a number of key indicators which are similar to their EPA annual reporting requirements.

The figures reported look at trends over a three-year period for the member companies as a whole.

This year we have again achieved a very high level of participation with ca. 94 % of companies submitting data. This is an 8 % increase on the participation level last year.

This year marks a milestone in the Responsible Care report with the introduction of a web enabled on line data collection system a year ahead of its planned introduction. The new software is designed to facilitate more efficient data collection and improved analysis.

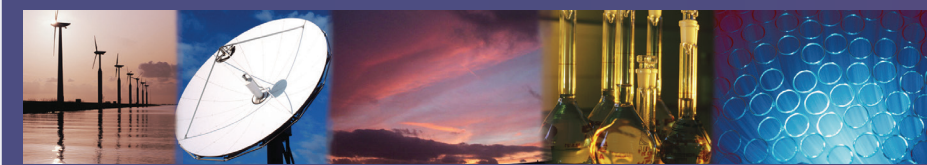
The downward trend in the numbers employed in the member companies seen in recent years has stabilised with no change between 2011 and 2012. However, the good news is that production volumes continue to grow with a 10 % increase over the 3 year period. As the employment number is considered to be a lagging economic indicator, it is hoped that the continued increase in production will feed through to increased employment in the coming years. The stabilisation in the numbers employed is a sign that this may be about to begin.

We are pleased to report decreases of 41 % in Phosphate discharge to waters, and a 3 % reduction in nitrogen discharge to waters. Hazardous waste reduced by 6.5% over the 3 year period. Water consumption decreased by 5.5 % and energy consumption reduced by 6.6%. These reductions were all achieved against a backdrop of a 10 % increase in production. Volatile Organic Compounds emissions, which were showing signs of increasing in recent years have now stabilised with an increase of 2.8 % during a period when production increased by 10 %. Non- hazardous waste has increased over the period but this parameter can be impacted significantly by the levels of demolition waste as some older plants are refurbished.

There was a decrease of 7 % in the lost time injury rate over the three year reporting period following a 12 % decrease reported last year.

Within our member companies, Responsible Care is acknowledged as the fundamental non-corporate Environmental, Health and Safety initiative contributing positively to our employees and the communities in which we operate.

We will continue to encourage all our members to reinforce their efforts to achieve the very best in their EHS commitments.

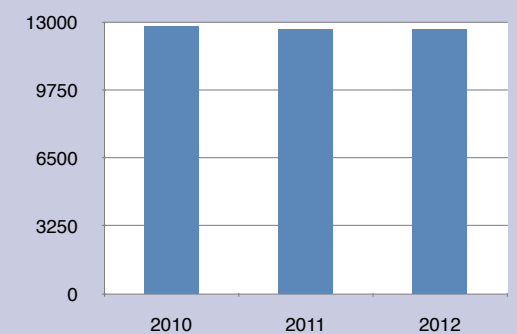


## Economic Factors

Employees:  - 1.2 %

During the three-year period, the numbers employed in the sector decreased by ca. 1.2%., down from a 6.2 % reduction reported in 2012. The number of employees is essentially unchanged between 2011 and 2012 indicating that the levelling out in employment predicted in 2012 has effectively taken place. This indicates a stabilisation in employment numbers in the sector and it is hoped that as output continues to show strong signs of increasing, the numbers employed in the industry will increase in the coming years.

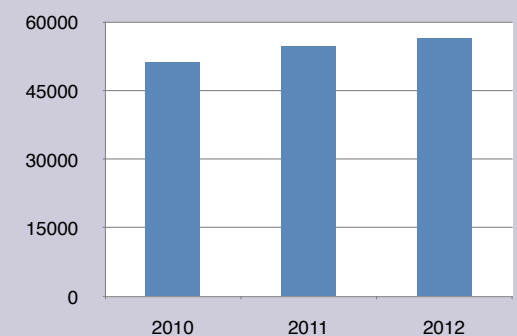
Number of employees in company (number)



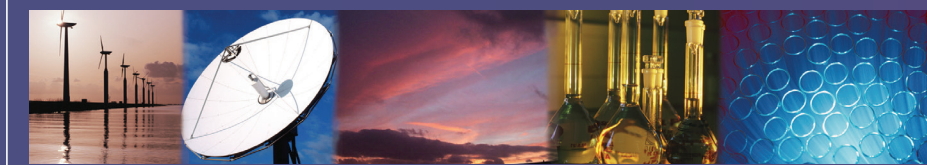
Production  + 10 %

The output from the reporting firms increased by 10 % over the three year period from 2010 to 2012. This reflects a continued very strong performance in terms of productivity in the sector which we hope will continue in the coming years.

Production (production output, annual)







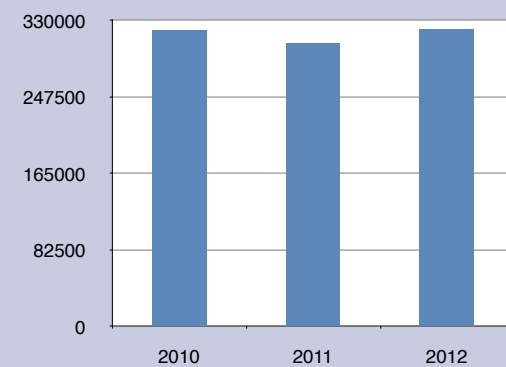
## Air Emissions

### Carbon Dioxide ↑ +0.4%

The trend in CO<sub>2</sub> emissions showed only a very slight increase of ca. 0.48 % over the three year period. This is a very modest increase compared to the increase in the level of production over the same period. The member companies continue to maintain a strong focus on all aspects of energy management and will carefully monitor the trend in energy parameters in the coming years.

Maintaining an essentially flat Carbon Dioxide emissions profile is a result of more of our member companies putting structured energy management systems in place and moving towards the adoption of the ISO 50001 Standard Energy Management Systems. We expect this trend to continue in the years ahead as more companies reap the benefits of improved energy management systems.

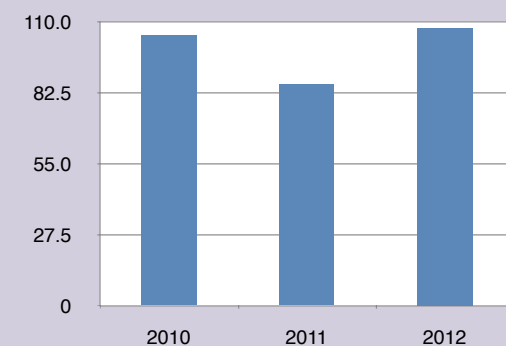
CO<sub>2</sub> emissions tonnes



### Volatile Organic Compounds ↑ +2.8%

This parameter has shown only a slight increase of 2.8 % compared to a 57 % increase reported over the three year period last year. This trend has stabilised but will continue to be a focus of our member companies in the years ahead to ensure that emissions of VOCs are tightly controlled.

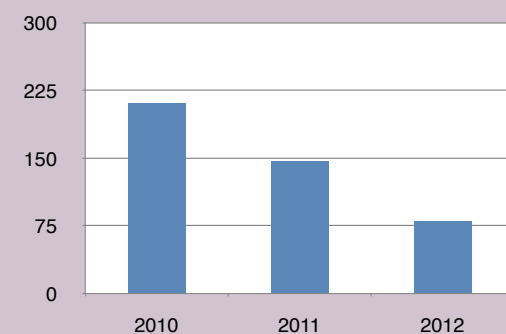
Volatile Organic Compounds/VOC (tonnes)



### Sulphur Dioxide ↓ -62%

Sulphur Dioxide showed a decrease of 62 % over the three-year period, building on a reduction of 17 % reported last year. This has resulted from the conversion of some member companies from oil to natural gas during the period.

Sulphur dioxides / SO<sub>x</sub> (tonnes)

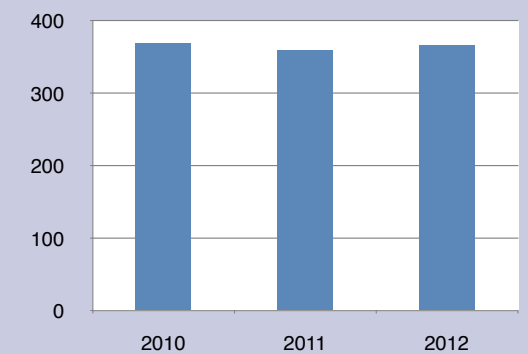


## Water Discharges

### Chemical Oxygen Demand ↓ -0.8%

This parameter has shown a small decrease of 0.8 % reflecting a similar reduction reported last year. These decreases, while modest in absolute terms, are very good when compared to the increases in production levels over the same period.

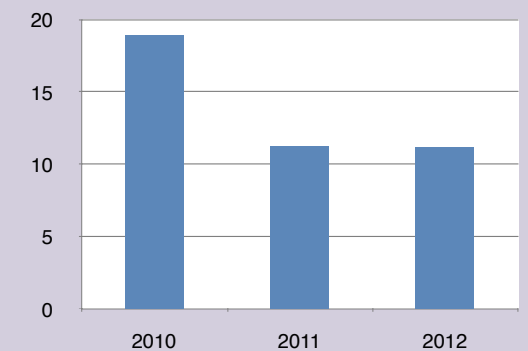
Chemical Oxygen Demand, to waters (O<sub>2</sub> tonnes)



### Phosphate ↓ -41%

The phosphorous emissions from members' sites decreased by ca. 41 % over the three-year period. This follows on from a decrease of 49 % reported in 2011. This again demonstrates the continuous improvement ethos of our member companies in the important area of waste water management in particular in the area of waste water treatment plant operations where control of Phosphate emissions is given a high priority.

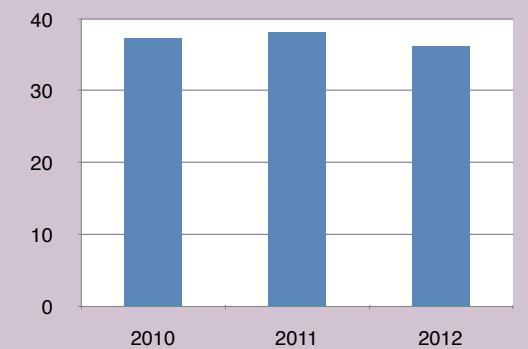
Aquatic Release of Phosphorous Compounds (tonnes of P)



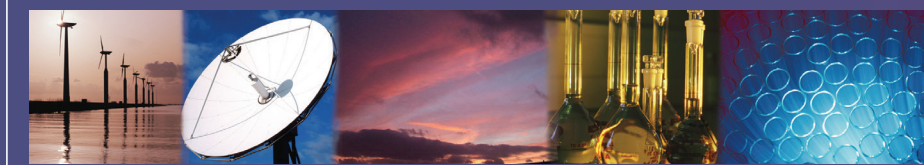
### Nitrogen ↓ -3.2%

This year is the eight consecutive year of reductions in aquatic release of nitrogen. A ca. 3 % reduction in this parameter has been achieved over the three-year period which follows a 10 % reduction reported last year. The two year trend suggests that this parameter may now be stabilising making further reductions more difficult to achieve. However, this illustrates the effectiveness of member companies' wastewater treatment plants in reducing the impact of discharges of nitrogen to waters.

Aquatic Release of Nitrogen Compounds (tonnes of N)





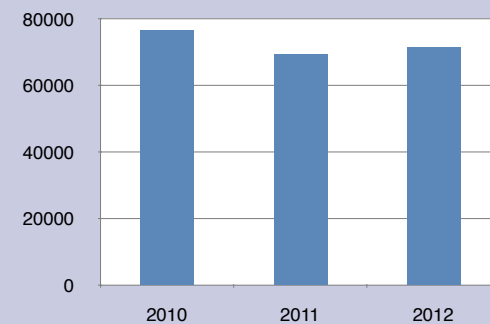


## Waste Disposal

### Hazardous Waste ↓ -6.5 %

The proper disposal of hazardous waste is an important priority of all member companies and is critical to the success of the Responsible Care initiative. The reduction of 6.5% achieved follows on from a 14 % decrease reported last year. Our member companies are determined to minimise the generation of hazardous waste in all aspects of operations and thereby continue a high standard of environmental protection.

Hazardous Waste for Disposal (tonnes)

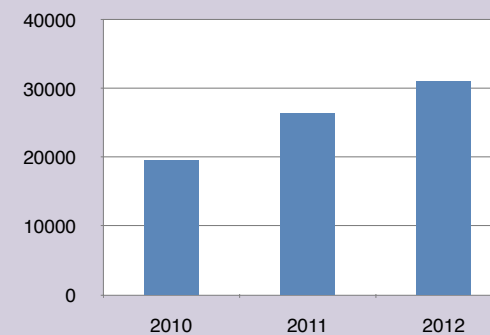


### Non- Hazardous Waste ↑ +58 %

The amount of non- hazardous waste increased by 58 % which was predicted last year based on the two year trend at that time. This parameter can be impacted by the amount of construction waste generated as a result of capital investment activity and can be somewhat variable year on year.

The commitment to Responsible Care means continually striving to improve the levels of reuse and recycling. This will help to conserve scarce resources for future generations. We will continue to play our part in this national effort.

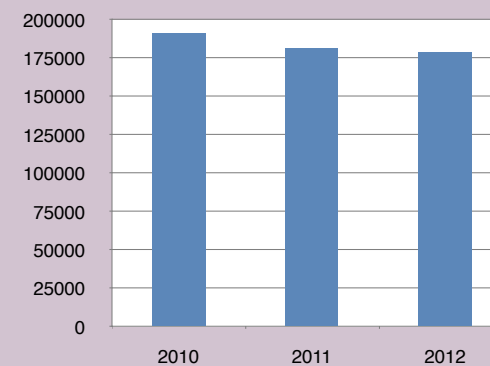
Non-hazardous Waste for Disposal (tonnes)



### Energy Consumption ↓ - 6.6 %

The energy consumed by the member companies decreased by 6.6 % over the 3 year period. This is an excellent achievement in the light of an increase in production of ca. 10 %. This demonstrates the progress member companies continue to make in the area of energy management in all aspects of their operations.

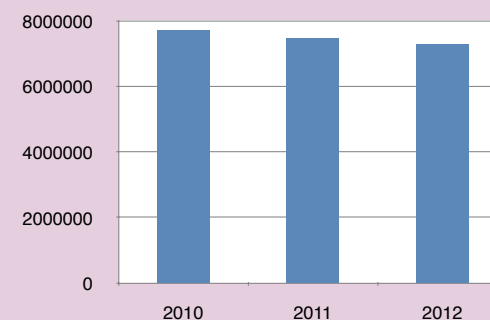
Energy Consumption (tonnes of Oil equivalent)



### Water Consumption ↓ - 5.5 %

Clean water is rapidly becoming a more scarce resource worldwide as each year passes with warm summers even putting pressure on Irish water supplies. We are conscious of the importance of this resource and actively encourage our member companies to minimise its use in their day to day operations. We have achieved a reduction of 5.5 % in water consumed by our member companies over the three year period to 2012. This is an excellent achievement in a period of increased production activity. This shows the importance we attach to conserving our scarce water resources and making the best use of water in our facilities throughout the country.

Non-hazardous Waste for Disposal (tonnes)



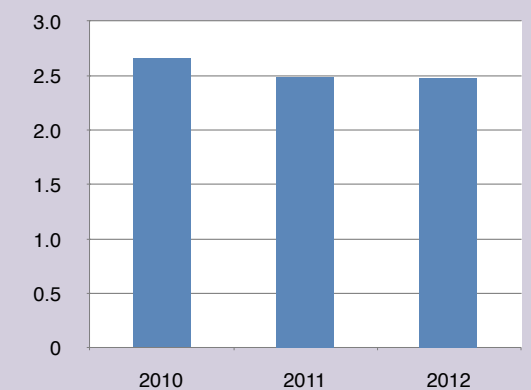
## Safety

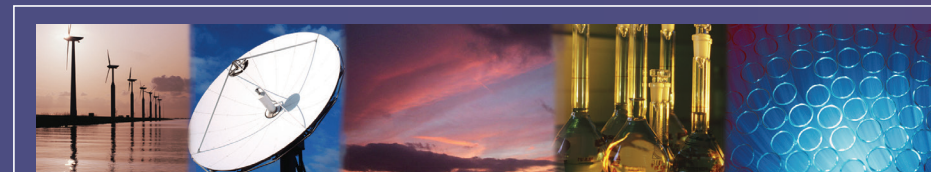
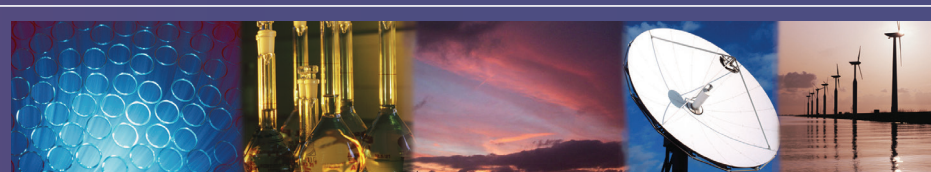
The safety of our employees is of paramount importance to our member companies.

### Lost Time Injury Rate ↓ - 6.8 %

We are pleased to report a reduction of 6.8% in the lost time injury rate following on from a 12% reduction reported last year. This parameter has shown a consistent reduction over the last eight years. With almost 24 million hours worked in the sector in 2012, the low level of lost time injuries is testament to the continued overall effectiveness of the health and safety management systems in the sector.

Lost Time Injuries Frequency Rate  
LTI per million hours worked





## Codes of Practice

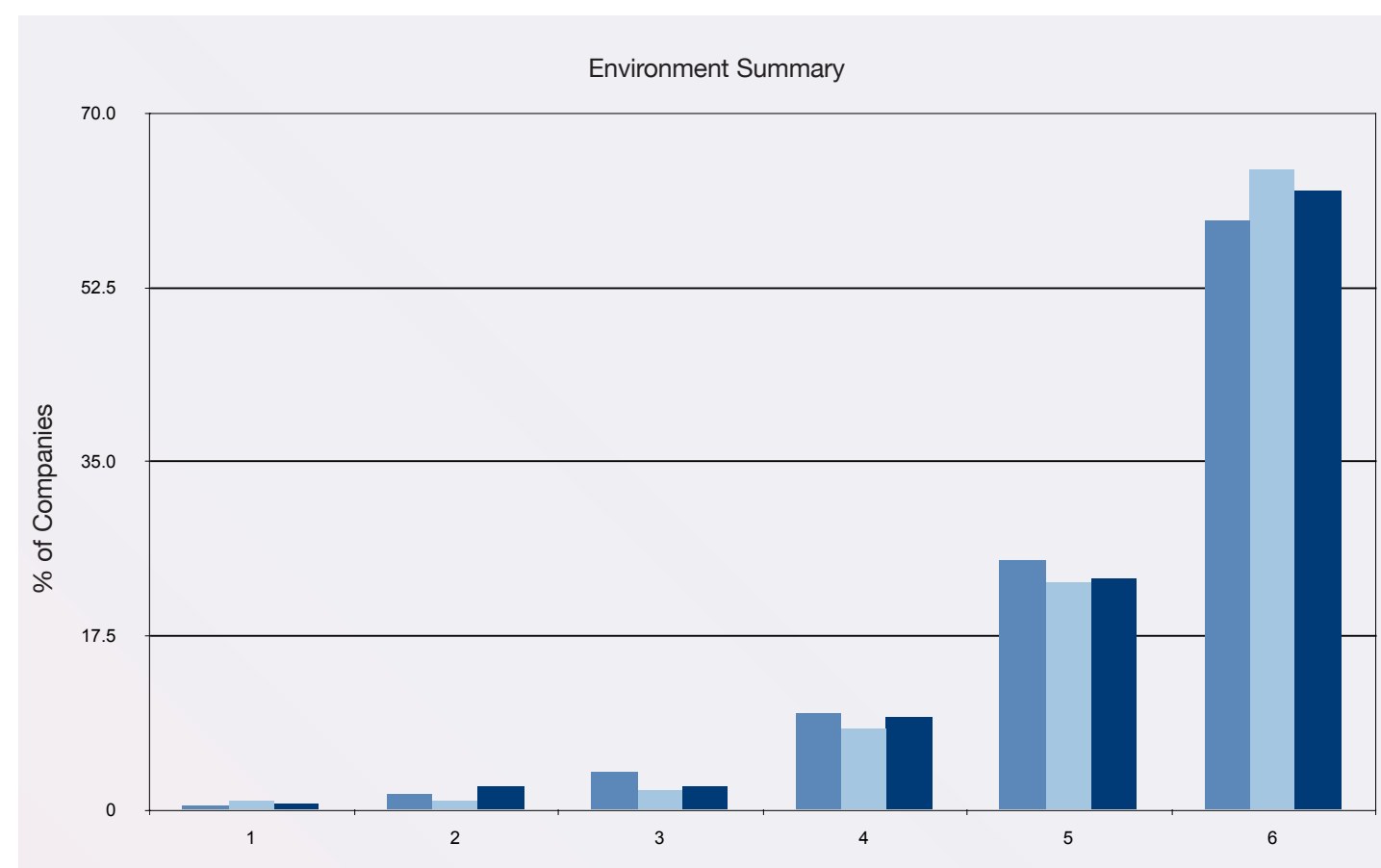
Companies are required to assess their performance against Responsible Care management codes of good practice in environment management, process safety, and energy management and newly introduced last year Product Stewardship management. While this procedure is self-assessment it does require the Company Director or Chief Executive Officer to verify any report at stage 5 or stage 6. The numeric scale used for the various stages has the following meanings:

1. No action
2. Evaluation against the code requirement completed
3. Developing an action plan
4. Implementing the action plan
5. Code requirement is in place
6. Annual review of the code requirement

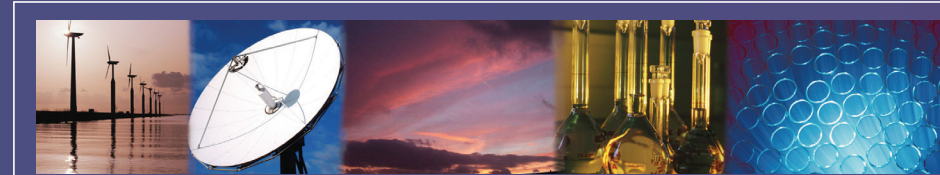
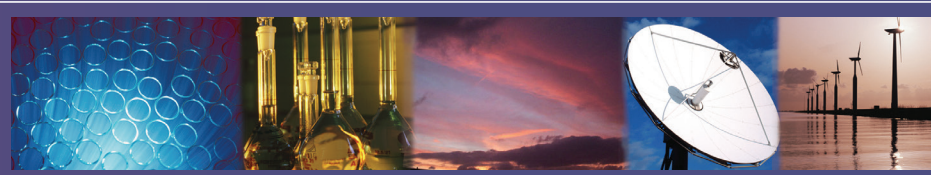
This year the report will compare the overall performance of the codes to the last two years of results in order to see more clearly the progress companies are making. A detailed breakdown of how companies are rated in each section of the code will be available as an appendix on the PharmaChemical Ireland website ([www.pharmaceuticalireland.com](http://www.pharmaceuticalireland.com)). The participation in this aspect of the Responsible Care initiative continues at a very high level with over 91 % of the companies participating in the Safety, Environment and Energy Codes with 87 % contributing to the Product Stewardship Code and Security codes.

## Environment Code

The progress in implementation of the Environment Code across member companies continues steadily with over 85 % of participants achieving Level 5 or greater and 95 % of respondents being at Level 4 or above. These levels of achievement are testament to the strong culture of continuous improvement in environmental performance in accordance with the principles of Responsible Care.



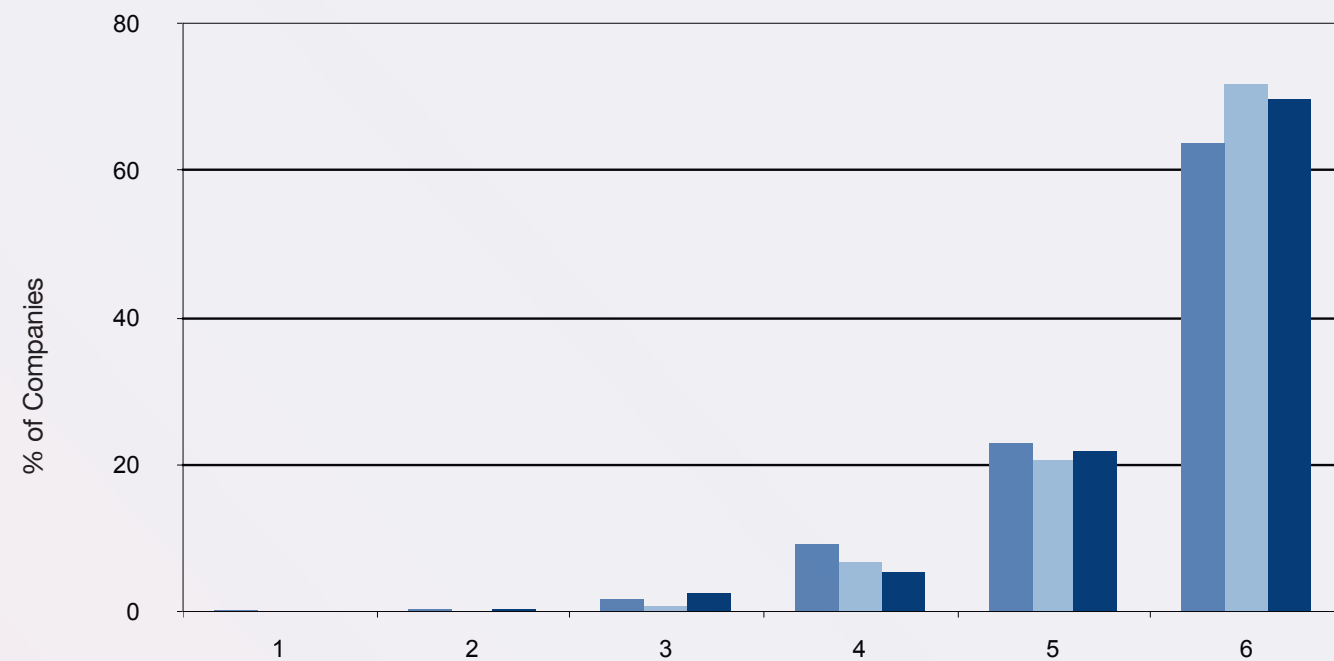




## Health and Safety Code

The Health and Safety Code continues to show a very high level of achievement with in excess of 92 % of member companies achieving Level 5 or greater and 97 % rated at Level 4 or above. The strong focus on safety continues to be reflected in the steady reduction in the overall accident rate in the sector with a further 7 % reduction achieved in the last three year period following on from a 12% improvement over the previous period. The health and safety of our employees is of paramount importance to our member companies as evidenced by the efforts made to continuously improve the Safety performance of our facilities.

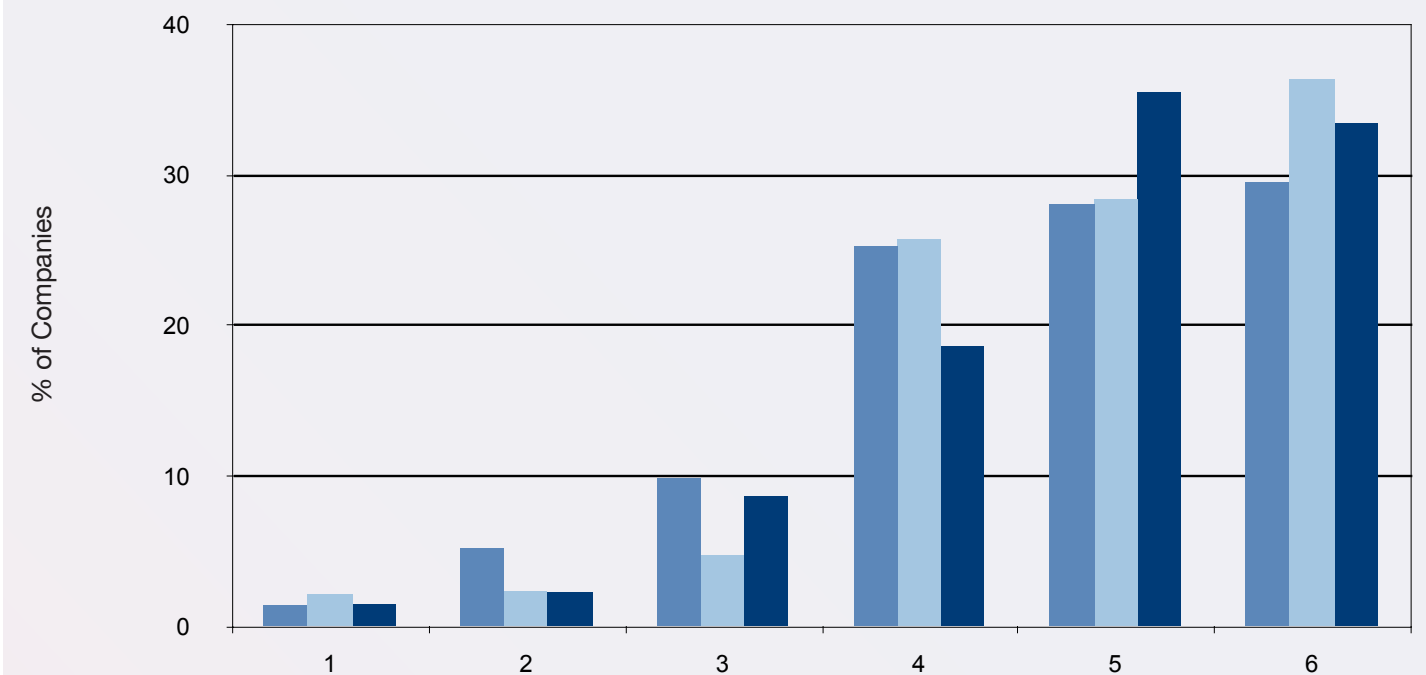
H&S Summary

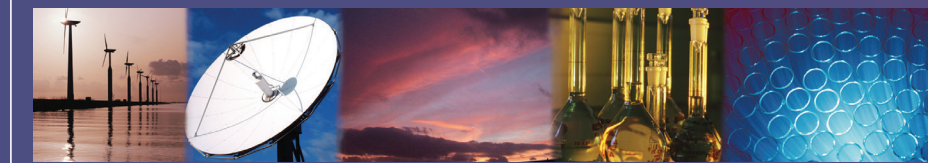


## Energy Code

The returns for the Energy Code this year show that 69 % of companies are performing excellently at Levels 5 or 6 with 88% of companies operating at level 4 or higher. The energy code is now reaching maturity with results similar to the more mature Safety and Environment Codes. We remain committed to reducing our energy consumption to the lowest practicable level thereby reducing our dependence as a society on imported energy.

Energy Summary



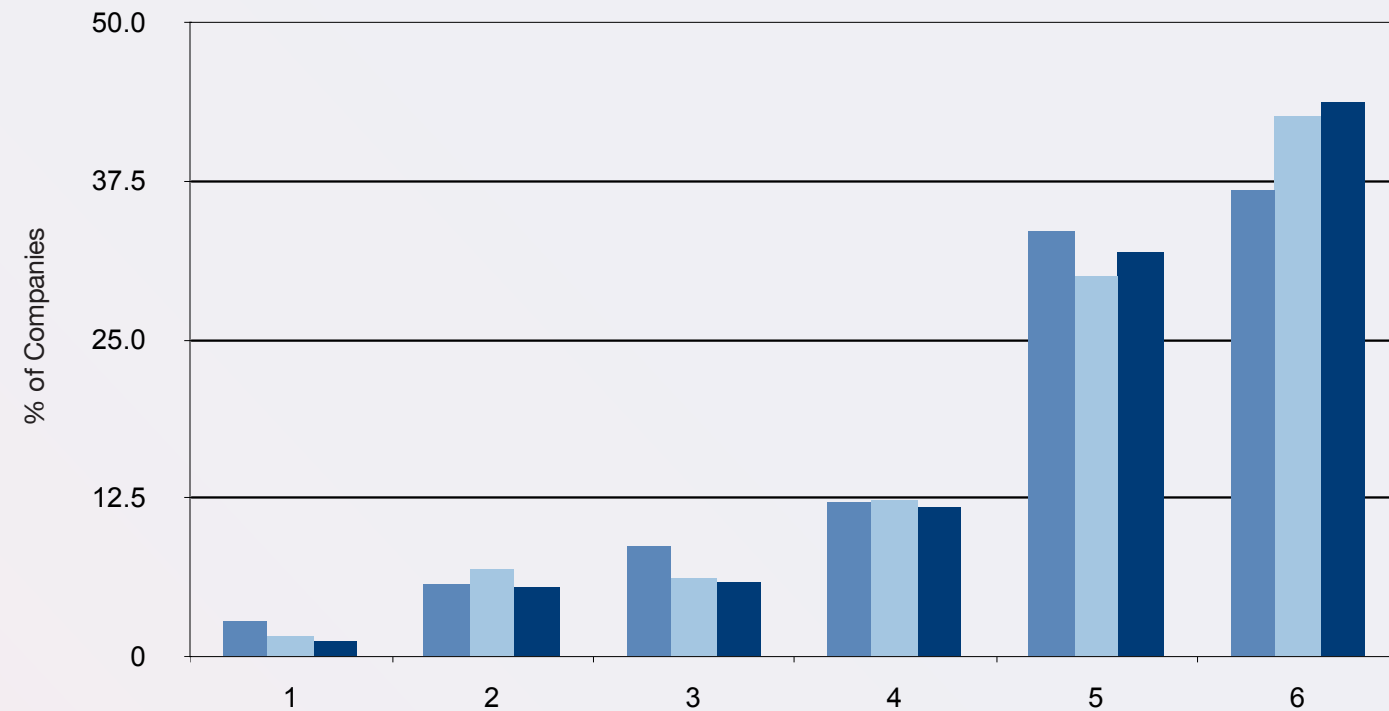


## Product Stewardship Code

Under Responsible Care, the member companies of PharmaChemical Ireland are committed to improving the responsible management of our products throughout their lifecycles – from the input of raw materials to ultimate product end-use and disposal. The goal of product stewardship is to ensure that parties up and down the product supply chain have active management systems to ensure the safe, environmentally sound, and socially responsible handling of the product. The following code is seen as a holistic approach for companies to manage their Product Stewardship requirements and bring together all aspects of the supply chain.

We are pleased to report that over 76 % of the member companies are rated at Level 5 or Level 6 with over 87 % rated above Level 4. In line with the experience of the Energy Code, we expect to see a move to even higher levels as the code further matures over the next few years.

Product Summary

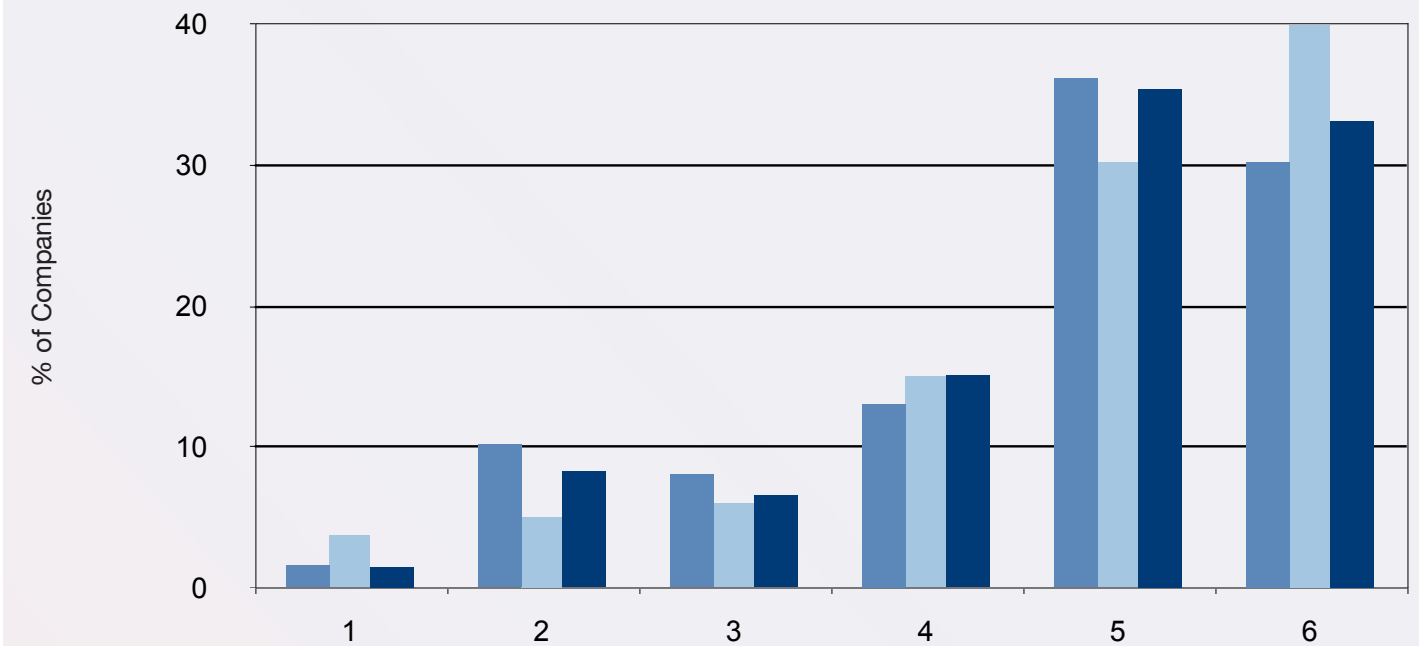


## Security Code

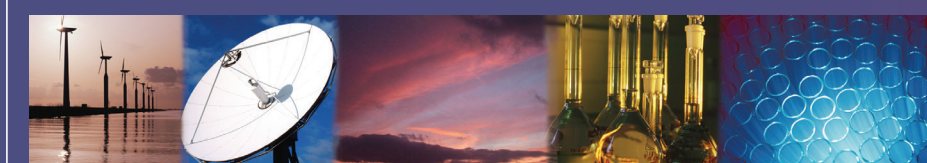
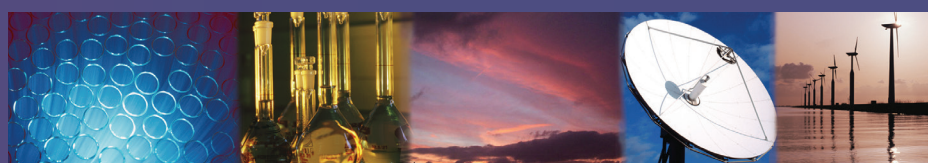
Under Responsible Care, the member companies of PharmaChemical Ireland are committed to ensuring that their facilities, raw materials and products are maintained in a secure environment at all times. The goal of security code pilot is to ensure that member companies have structured security systems and procedures in place to manage this important aspect of their operations.

This is a relatively new code which was first formally adopted in 2011. We are pleased to report that over 68 % of companies are operating at Level 5 or 6, and 84 % operating at Level 4 or above. In line with the experience following the introduction of other codes, we expect to see a move to higher levels as the code further matures.

Security Summary







## Data Collection

Mr Liam Tolton of Second Sight Technical independently collected, analysed and reviewed the data used in the generation of this report and prepared the initial draft report.

Liam Tolton B.E. B.A. M.Sc. (Eng). C.Eng. M.IEI. DGSA  
Director  
Second Sight Technical  
Email: [info@secondsighttechnical.com](mailto:info@secondsighttechnical.com)



## Second Sight Technical

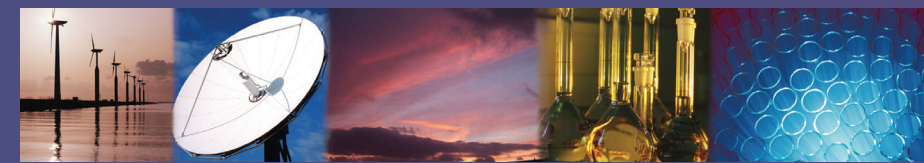
Second Sight Technical is an engineering consultancy headed up by Mr. Liam Tolton.

Mr. Tolton holds primary degrees in Engineering and Economics with a Masters Degree in Process Safety and Loss Prevention. He has worked in oil refining and bulk pharmaceutical manufacturing as a project engineer, Engineering Section Head and Department Manager with responsibility for engineering, utilities, environment and safety. He is a certified Dangerous Goods Safety Advisor and a Six Sigma Black Belt.

## List of companies involved

PharmaChemical Ireland gratefully acknowledges the assistance of the following companies for their assistance in compiling this report:

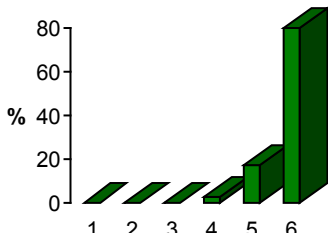
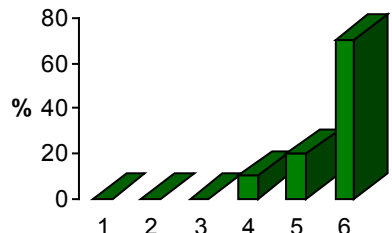
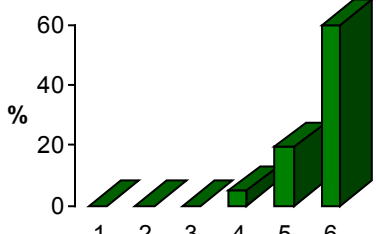
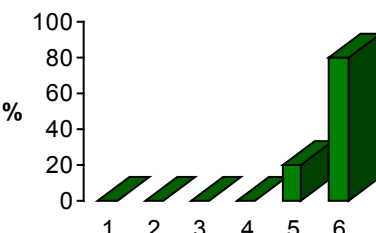
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Alkermes Pharma Ireland Limited	MSD Brinny
Allergan Pharmaceuticals Ireland	MSD Swords
Arran Chemical Co. Ltd	MSD Rathdrum
Astellas Ireland (Dublin)	Novartis Ringaskiddy Limited
Astellas Ireland (Kerry)	Pfizer Grangecastle
BASF Ireland Limited	Pfizer Little Island
Bristol Myers Squibb Cruiserath	Pfizer Newbridge
Cara Partners & Wallingstown Co Ltd	Pfizer Ringaskiddy
Clarochem Ireland	Recordati Ireland Limited
Eli Lilly S A - Irish Branch	Roche Ireland Limited
FMC International	Rottapharm Ireland
GE Healthcare Bio Sciences	Servier Ireland Industries Limited
Genzyme Ireland	Sigma Aldrich Ireland Limited
Glaxo Smith Kline Cork	Swords Laboratories
Helsinn Birex Pharmaceuticals Limited	Takeda Ireland Bray
Henkel Ireland Limited	Takeda Ireland Grangecastle
Hovione Limited	Temmler Ireland Limited
Ipsen Manufacturing Ireland Limited	Teva Pharmaceuticals Ireland Limited
Janssen Pharmaceuticals Limited	Topchem Pharma
Janssen Biologics Ireland Limited	UCB Manufacturing Ireland
Leo Pharma	
Mallinckrodt Pharmaceuticals	



## Appendix One

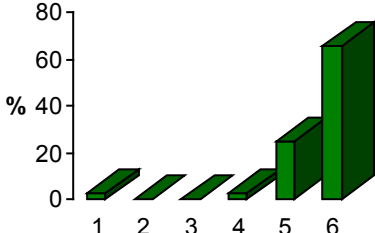
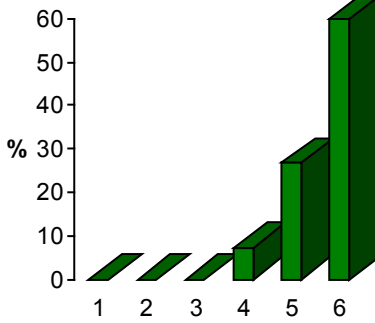
The following appendix contains the detail of the following codes of practice, Environment, Health & Safety, Energy & Product Stewardship.

### Environment Code

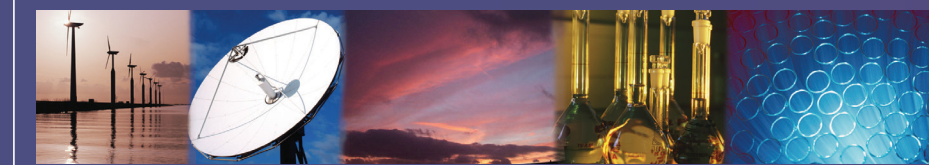
Section	Guideline	% Companies at each Stage															
1	<p><b>Senior Management Commitment</b></p> <p>Senior management commitment to reduction of emission releases and waste generation. Commitment to the use of cleaner technology</p>	<ul style="list-style-type: none"><li>• Policy in place endorsed by top management including commitment to pollution prevention and continuous improvement</li><li>• Policy is available to all employees and to the public</li><li>• Resources have been dedicated to the implementation of the policy</li></ul>	 <table><caption>% Companies at each Stage for Senior Management Commitment</caption><thead><tr><th>Stage</th><th>%</th></tr></thead><tbody><tr><td>1</td><td>10</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>10</td></tr><tr><td>4</td><td>10</td></tr><tr><td>5</td><td>20</td></tr><tr><td>6</td><td>80</td></tr></tbody></table>	Stage	%	1	10	2	10	3	10	4	10	5	20	6	80
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2	<p><b>Identification of Significant Impacts</b></p> <p>Evaluation of the potential impacts of operation on employees, public and environment</p>	<ul style="list-style-type: none"><li>• Procedure in place for identifying and evaluating the potential environmental impact of activities and releases</li><li>• Based on the assessment a list of priority actions is in place with an implementation plan also available</li></ul>	 <table><caption>% Companies at each Stage for Identification of Significant Impacts</caption><thead><tr><th>Stage</th><th>%</th></tr></thead><tbody><tr><td>1</td><td>10</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>10</td></tr><tr><td>4</td><td>10</td></tr><tr><td>5</td><td>20</td></tr><tr><td>6</td><td>70</td></tr></tbody></table>	Stage	%	1	10	2	10	3	10	4	10	5	20	6	70
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3	<p><b>Compliance with Legislation</b></p> <p>Awareness and compliance with Environmental Legislation</p>	<ul style="list-style-type: none"><li>• Information mechanism in place to ensure current legal requirements identified</li><li>• Legal requirements communicated to all concerned parties</li><li>• Procedure to ensure compliance with all legal requirements in place</li></ul>	 <table><caption>% Companies at each Stage for Compliance with Legislation</caption><thead><tr><th>Stage</th><th>%</th></tr></thead><tbody><tr><td>1</td><td>10</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>10</td></tr><tr><td>4</td><td>10</td></tr><tr><td>5</td><td>20</td></tr><tr><td>6</td><td>60</td></tr></tbody></table>	Stage	%	1	10	2	10	3	10	4	10	5	20	6	60
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4	<p><b>Environmental Reporting</b></p> <p>Reporting of environmental indicators to ensure appropriate action</p>	<ul style="list-style-type: none"><li>• Mechanism in place for tracking, recording and reporting environmental indicators</li></ul>	 <table><caption>% Companies at each Stage for Environmental Reporting</caption><thead><tr><th>Stage</th><th>%</th></tr></thead><tbody><tr><td>1</td><td>10</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>10</td></tr><tr><td>4</td><td>10</td></tr><tr><td>5</td><td>20</td></tr><tr><td>6</td><td>80</td></tr></tbody></table>	Stage	%	1	10	2	10	3	10	4	10	5	20	6	80
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## Environment Code

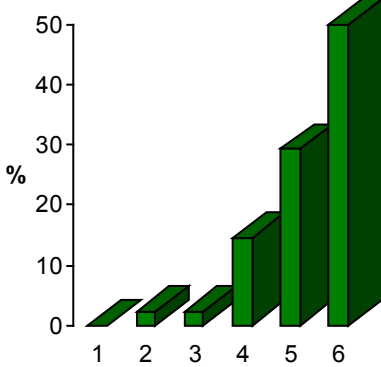
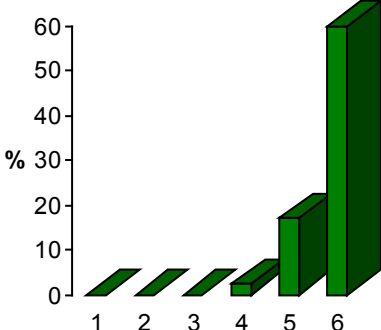
Section	Guideline	% Companies at each Stage
5	<b>Environmental Emissions Management</b>	
	Control and reduction of emissions with potential environmental impact	
6	<b>Waste Management</b>	
	Waste management programme and practices	

<ul style="list-style-type: none"><li>• Identification of emission sources</li><li>• Monitoring programme of emissions</li><li>• Procedure to identify impact of emissions</li><li>• Abatement programme</li></ul>	 <table><caption>% Companies at each Stage for Environmental Emissions Management</caption><tr><th>Stage</th><th>%</th></tr><tr><td>1</td><td>10</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>10</td></tr><tr><td>4</td><td>10</td></tr><tr><td>5</td><td>20</td></tr><tr><td>6</td><td>70</td></tr></table>	Stage	%	1	10	2	10	3	10	4	10	5	20	6	70
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<ul style="list-style-type: none"><li>• Inventory of wastes established</li><li>• Waste reduction plans state preference for complying with the hierarchy of:<ul style="list-style-type: none"><li>• Avoidance/Reduction/Recycle/Treatment &amp; Disposal</li></ul></li><li>• Control of waste documentation in place and available</li><li>• Periodic reviews conducted for on and off site waste management practices, operations &amp; equipment</li><li>• Periodic environmental assessments conducted of all external waste handling facilities</li><li>• Reviews include a check to evaluate the potential for use of alternative methods to further eliminate/ reduce environmental releases and the waste generation</li></ul>	 <table><caption>% Companies at each Stage for Waste Management</caption><tr><th>Stage</th><th>%</th></tr><tr><td>1</td><td>10</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>10</td></tr><tr><td>4</td><td>10</td></tr><tr><td>5</td><td>20</td></tr><tr><td>6</td><td>60</td></tr></table>	Stage	%	1	10	2	10	3	10	4	10	5	20	6	60
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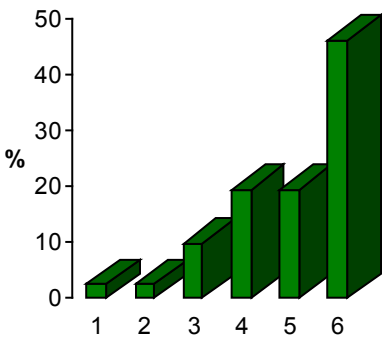
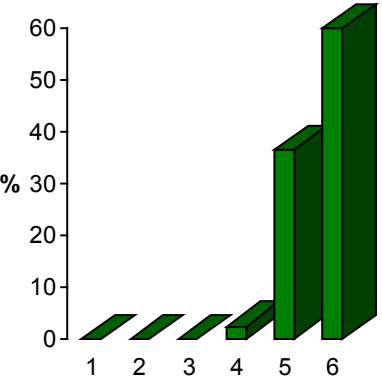
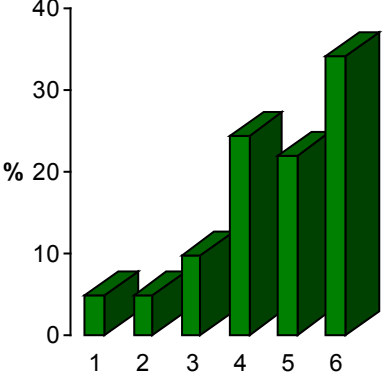


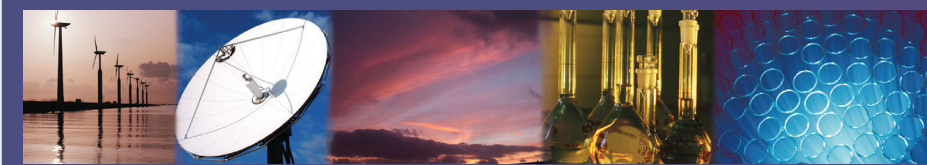


## Environment Code

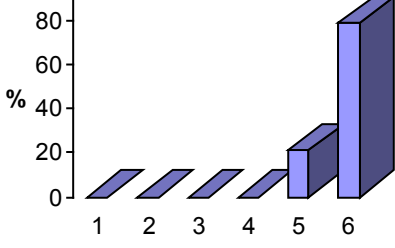
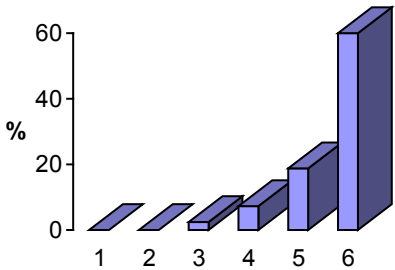
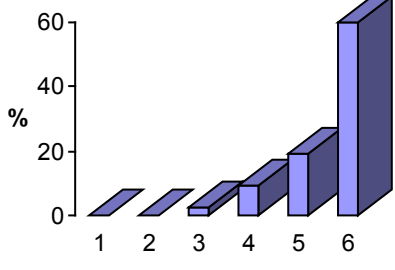
Section	Guideline	% Companies at each Stage
7	<b>Communication</b> Education and dialogue with employees and public about company activities which may have environmental impacts	
	<ul style="list-style-type: none"> <li>Channels of communication established both internally and externally on environmental matters</li> <li>Documented procedure in place to ensure communication procedure is effective.</li> <li>Process in place for communicating to employees the environmental impact of activities</li> <li>Forum in place for open communication with the public on the environmental impact associated with the releases to air, water, land and the waste produced</li> <li>Periodic performance update made available to all employees and public in a manner that provides them with a forum for open discussion</li> </ul>	
8	<b>Resources for Environmental Management</b> Provision of adequate resources to ensure good environmental management	
	<ul style="list-style-type: none"> <li>Procedure to evaluate resource requirements associated with programme implementation</li> <li>Adequate funds, facilities and human resources available to meet environmental policy requirements and fulfil environmental objects and targets</li> </ul>	

## Environment Code

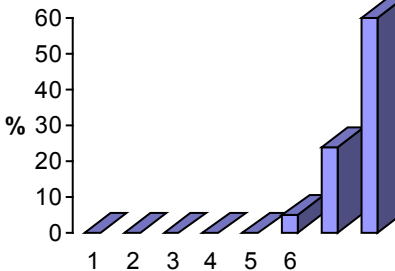
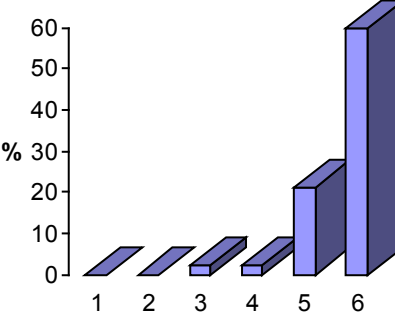
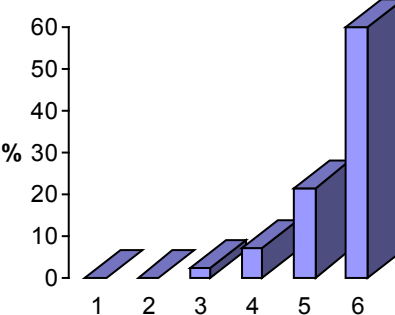
Section	Guideline	% Companies at each Stage
9	<b>Management of supply and distribution.</b> Requirement for high environmental standards from suppliers, contractors and vendors. Control of distribution methodology to ensure minimum impact on environment	
	<ul style="list-style-type: none"> <li>Procedure in place covering a pre selection review of all new contractors/ toll manufacturers, including an assessment of their environmental management practices against a predetermined set of criteria</li> <li>Compliance criteria used for selection</li> </ul>	
10	<b>Environment Training</b> Training of personnel in good environmental practice and efficiency	
	<ul style="list-style-type: none"> <li>Training requirements regarding environmental management identified</li> <li>Training programme in place on environmental management</li> <li>Awareness training provided on possible implications of employee action on company's environmental performance</li> </ul>	
11	<b>External Promotion of Environmental Best Practice</b> Ongoing programme for promotion and support of waste and release reduction by others	
	<ul style="list-style-type: none"> <li>Support through industry federations and groups for of waste and release reduction measures and technologies</li> <li>Source suppliers using measures to implement cleaner production and reduce/ eliminate environmental releases and waste generation</li> </ul>	



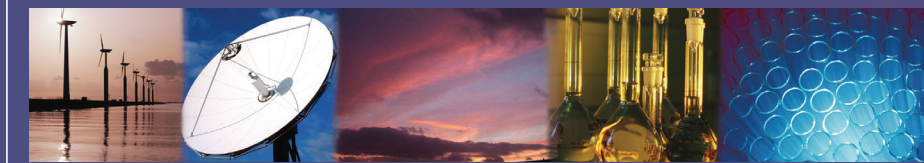
## Safety Code

Section	Guideline	% Companies at each Stage
<b>1 Occupational Health and Safety Policy</b>  Top management commitment to safety management and risk minimisation	<ul style="list-style-type: none"> <li>Endorsement by top management</li> <li>Periodically reviewed</li> <li>Include current main OHS objectives</li> <li>Compliance with legislation</li> <li>Commitment to continuous improvement</li> <li>Communicated to all relevant personnel</li> <li>Commit adequate resources and personnel</li> </ul>	
<b>2 Hazard and Risk Assessment</b>  Identification of risks, hazards and priorities	<ul style="list-style-type: none"> <li>Risk/Hazard Assessment procedure in-place</li> <li>Risk assessment(s) carried out for all significant facilities, activities including contractor and visitor activities</li> <li>Risk assessment procedure for all new processes and operations in place</li> <li>Risk and Hazards to be classified to allow prioritisation</li> </ul>	
<b>3 Legislation</b>  Legislative and Regulatory compliance	<ul style="list-style-type: none"> <li>Established mechanism for keeping up to date with relevant OHS legislation</li> <li>Documented assessment on relevance of legislation to Company</li> <li>Procedure to ensure legislation compliance</li> </ul>	

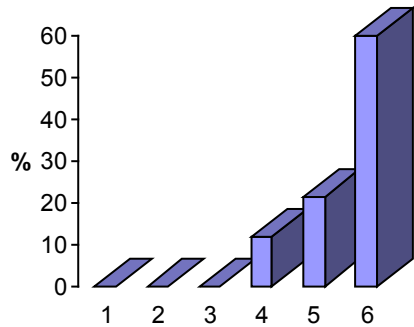
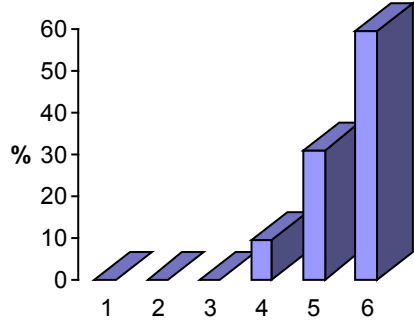
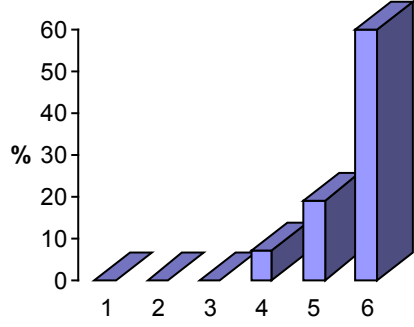
## Safety Code

Section	Guideline	% Companies at each Stage
<b>4 Change Control</b>  Change controls for safety sensitive operations	<ul style="list-style-type: none"> <li>Processes and operations with inherent risks identified</li> <li>Procedure for reassessment of alterations to safety sensitive operations in place</li> <li>Procedure for pre-approval of changes for safety sensitive issues in place</li> </ul>	
<b>5 Objectives and targets</b>  Safety objectives to be established and maintained to ensure continuous improvement	<ul style="list-style-type: none"> <li>Specific and measurable objectives established</li> <li>Objectives must take into account legislative, regulatory requirements, risk assessment findings, operational and business constraints and contributions from interested parties</li> <li>Objectives must be reviewed periodically</li> </ul>	
<b>6 Management plan</b>  Documentation and communication of OHS management plan	<ul style="list-style-type: none"> <li>Annual Management Plan setting out objectives, targets and previous performance</li> <li>Summary of the plan available to employees and interested parties</li> </ul>	

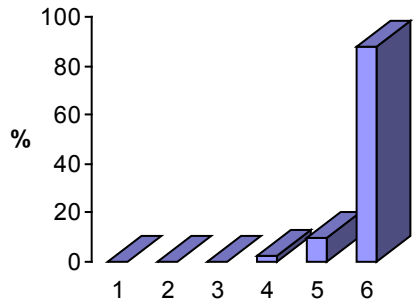
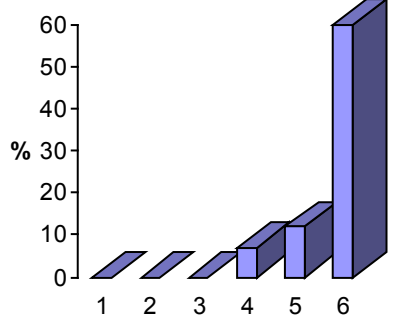
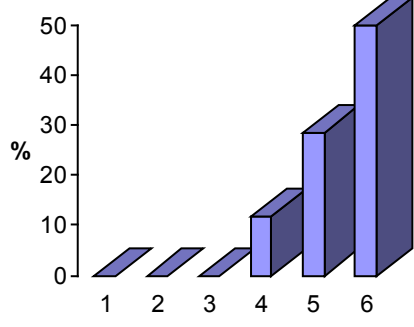


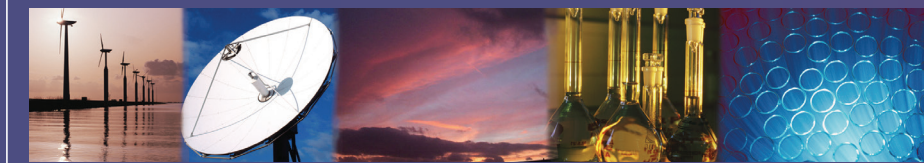


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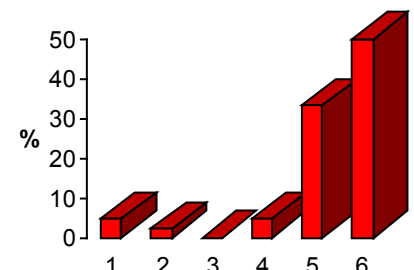
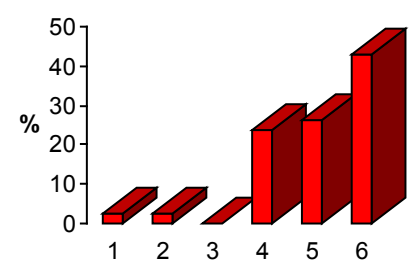
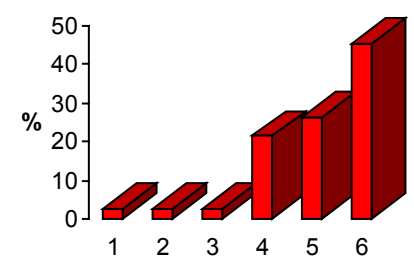
Section	Guideline	% Companies at each Stage
7	<b>Resources</b> Provision of resources and personnel <ul style="list-style-type: none"> <li>Senior manager assigned responsibility for establishing, maintaining and implementing the OHS management plan</li> <li>Adequate resources assigned, including personnel, to ensure the plan is properly implemented</li> </ul>	
8	<b>Training and safety awareness</b> OHS Training plan in place which is based on an assessment of training requirements <ul style="list-style-type: none"> <li>Training needs assessment carried out for all OHS significant functions, the findings from the risk assessment should be taken into account</li> <li>Personnel should receive training and information on policy, objectives and targets</li> <li>Consultation with employees on OHS significant issues should be established</li> </ul>	
9	<b>Emergency preparedness</b> Emergency response procedures appropriate to the facility, to be established, training given and routinely tested <ul style="list-style-type: none"> <li>Establish and maintain emergency response procedures, facilities and personnel appropriate to the operation.</li> <li>Carry out periodic testing of the emergency procedures</li> <li>Communication and co-operation established between the Company and external emergency services</li> </ul>	

## Safety Code

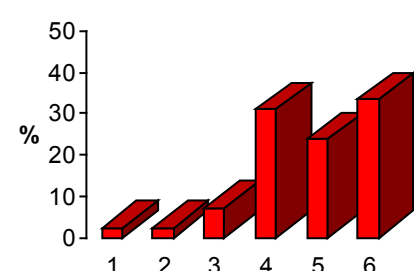
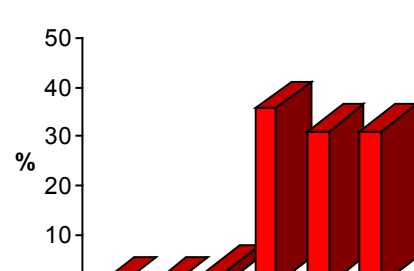
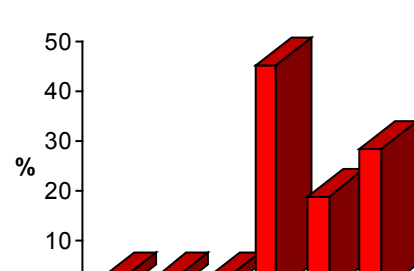
Section	Guideline	% Companies at each Stage
10	<b>Accident and Dangerous incidents</b> Procedures for the notification, investigation and corrective actions for all accidents and incidents and adequate facilities and training for such potential events <ul style="list-style-type: none"> <li>First aid facilities and properly trained personnel appropriate to the operations</li> <li>Procedure for notification of all accidents and dangerous incidents</li> <li>Procedure for the investigation of all accidents and dangerous incidents and mechanism for identifying appropriate corrective actions and implementation of same</li> </ul>	
11	<b>Health Protection</b> Provision of employee health screening, monitoring of operations and health promotion within the Company <ul style="list-style-type: none"> <li>Pre-employment health checks for all new employees</li> <li>Health screening program for all employees which takes into account the work functions of the individual</li> <li>Active support for health promotion initiatives within the Company</li> </ul>	
12	<b>Auditing and verification</b> <i>Active internal audit program for OHS and suitable corrective action documentation and tracking system.</i> <ul style="list-style-type: none"> <li>Procedure for ensuring that identified corrective actions are properly carried out</li> <li>Company shall have an audit program in place which checks effectiveness of OHS management system, response to accident and dangerous incidents and compliance with legislation</li> <li>Follow up procedure for audit findings to be in place</li> </ul>	

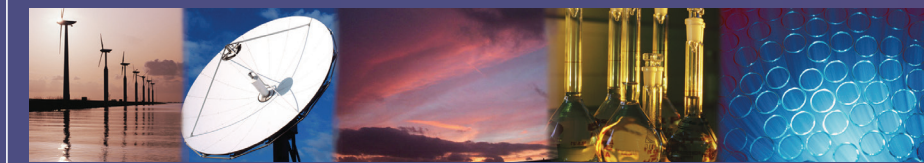


## Energy Code

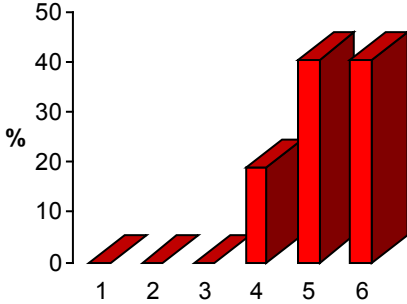
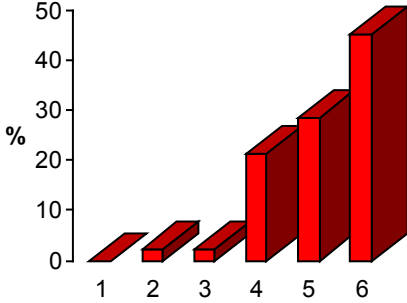
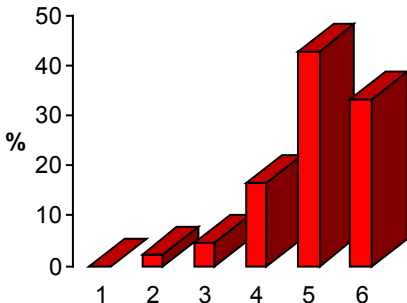
Section	Guideline	% Companies at each Stage
1	<b>Energy Policy</b> Top management committed to energy efficiency and reductions in greenhouse gas emissions	<ul style="list-style-type: none"> <li>Policy in place and signed by General Management</li> <li>Reviewed at least annually</li> <li>Included key objectives from the management plan</li> <li>Requires Company to comply with legislation</li> <li>Publicly available</li> <li>Commits adequate resources</li> </ul> 
2	<b>Identification of energies used</b> Establish detailed inventory and methods of measurement for all energies used on site and all energies available.	<ul style="list-style-type: none"> <li>List all energy types used on site</li> <li>Identify all potential energies available locally</li> <li>Establish an inventory of all significant energy users</li> <li>Establish logical sub-groups for monitoring</li> <li>Provision for monitoring of each sub group for all energy types</li> </ul> 
3	<b>Legislation and guidelines</b> Identification, awareness and compliance with all relevant legislation and licences. Review of all applicable 'best practice' guidelines and compliance with them where relevant to the site.	<ul style="list-style-type: none"> <li>Audit programme in place which checks compliance with energy policy and effectiveness of energy management plan</li> <li>Follow up procedure for audit findings</li> <li>Adequately trained auditor to be available for the audits</li> </ul> 

## Energy Code

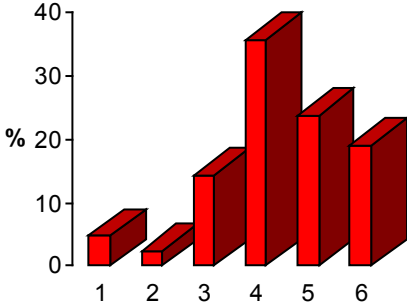
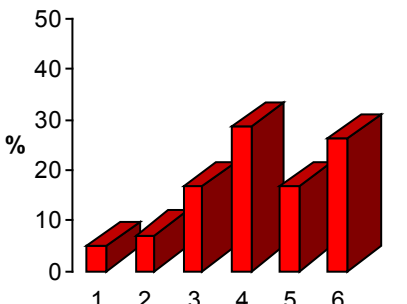
Section	Guideline	% Companies at each Stage
4	<b>Energy Monitoring</b> To ensure there is adequate monitoring of all energy usage and Carbon Dioxide emissions to comply with legislative requirements and support the energy management plan.	<ul style="list-style-type: none"> <li>Establish logical sub-groups for monitoring purposes</li> <li>Provision of monitoring for all sub groups and for relevant energy types</li> <li>Maintain calibration procedures for key metering</li> <li>Suitable data recording and reporting in place to support management objectives</li> </ul> 
5	<b>Optimum operating methods</b> To identify practical and energy efficient procedures and equipment for all the production processes and ancillary activities.	<ul style="list-style-type: none"> <li>Identify key production and ancillary activities with significant energy consumption</li> <li>Identify realistic energy efficient methodologies for each of the key activities</li> <li>Establish potential energy requirements for the new methodology.</li> </ul> 
6	<b>Energy Gap analysis</b> To identify the gap between existing practice and legislation requirements and/or applicable best practice taking into account technical, financial and procedural requirements necessary to close the identified gap.	<ul style="list-style-type: none"> <li>Equipment and procedural alterations necessary to close the identified gaps are identified</li> <li>Technical requirements specified</li> <li>Budget estimated</li> <li>Cost benefit analysis carried out</li> </ul> 



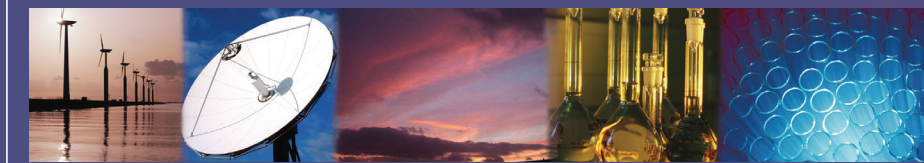
## Energy Code

Section	Guideline	% Companies at each Stage
7	<b>Objectives and Targets</b> To establish clear and measurable energy reduction objectives and targets that are prioritised based on the gap analysis and cost efficiency.	<ul style="list-style-type: none"> <li>Specific and measurable objectives and targets established</li> <li>Objectives prioritised based on legislative requirements, gap analysis and cost.</li> <li>Objectives and targets must be reviewed at least annually.</li> </ul> 
8	<b>Management Plan</b> To formally document the Management Plan, including objectives and Targets and to report on progress of previous plan. To provide an effective reporting mechanism for interested stakeholders.	<ul style="list-style-type: none"> <li>Annual management plan in place setting out objectives and /targets, past progress</li> <li>Key actions assigned to individuals</li> <li>Plan approved by relevant Senior Manager or General Manager</li> <li>Summary of plan made available to all employees and other relevant personnel.</li> <li>Inclusion of the energy reduction plan into an existing annual Environmental report is acceptable.</li> </ul> 
9	<b>Resources</b> Provision of adequate resources and personnel to allow the Energy Policy and the supporting energy management plan to be reasonably and practically implemented.	<ul style="list-style-type: none"> <li>Senior Manager assigned the responsibility for monitoring and implementing the energy management plan.</li> <li>Adequate resources assigned to ensure identified improvements can be reasonably implemented</li> <li>Suitably trained personnel available for enacting the energy management plan</li> </ul> 

## Energy Code

Section	Guideline	% Companies at each Stage
10	<b>Training and Awareness</b> To ensure all personnel within the Company are aware of the requirements of the energy management policy, including the objectives of the energy management plan and have received suitable training to allow them proactively support the identified energy reductions.	<ul style="list-style-type: none"> <li>Training plan based on the gap analysis and priority list, in place for all employees and contractors.</li> <li>Information on policy, energy management plan and objectives to be given to all interested parties</li> <li>Mechanism to encourage feed-back in place</li> <li>Programme supporting energy efficiency both inside and outside the Company in place</li> </ul> 
11	<b>Auditing and Verification</b> To have an active internal energy audit system in place which monitors compliance with the energy policy and effectiveness of the energy management plan and its implementation	<ul style="list-style-type: none"> <li>Audit programme in place which checks compliance with energy policy and effectiveness of energy management plan</li> <li>Follow up procedure for audit findings</li> <li>Adequately trained auditor to be available for the audits</li> </ul> 

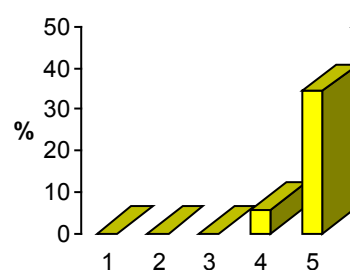
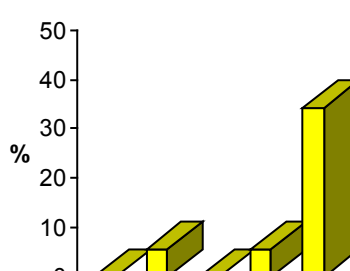
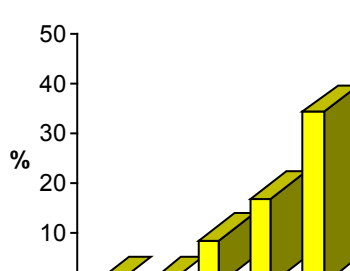


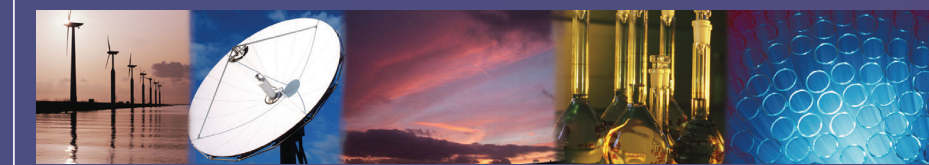


## Product Stewardship Code

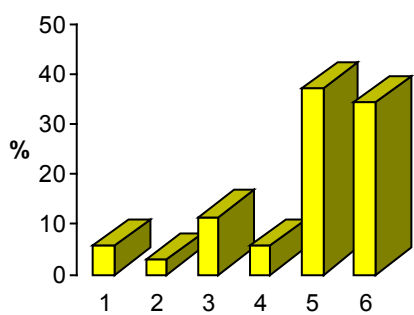
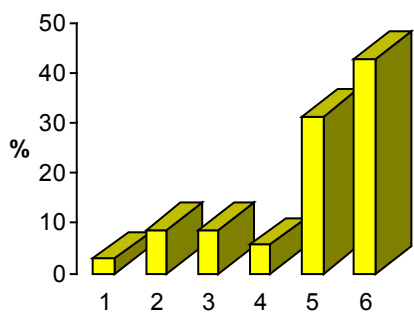
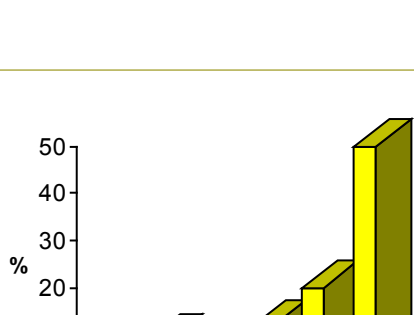
Section	Guideline	% Companies at each Stage
1	<b>Senior management Commitment</b>  Long-term commitment of senior management to product stewardship	<ul style="list-style-type: none"> <li>Policy in place and signed by senior management</li> <li>Ensure that employees understand the product stewardship concept</li> <li>Ensure that adequate resources are available to establish, review and maintain product stewardship practices on site</li> </ul> 
2	<b>Raw Materials Acquisition</b>  Purchasing Policy in Place to ensure raw materials are obtained from reputable sources	<ul style="list-style-type: none"> <li>Inventory of all raw materials and relevant suppliers that are used in the products</li> <li>Where required SDS requested, received and checked for compliance with legislative requirements and current CPL rules</li> <li>Communicate up the supply chain information on product use</li> <li>Actively seek input and advice from suppliers on their product and risk management experiences</li> </ul> 
3	<b>Supply &amp; Transport to site of raw materials</b>  Procedure in place for carrier election	<ul style="list-style-type: none"> <li>List of approved transporters who can transport goods on site – check history, emergency plans, membership of approved responsible care programmes etc</li> <li>Transporters have appropriate licenses for the goods they are bringing on site.</li> <li>DGSA appointed by both consignor and consignee where necessary</li> <li>Goods checked and labelled to ensure they are correct and have the necessary paperwork.</li> </ul> 

## Product Stewardship Code

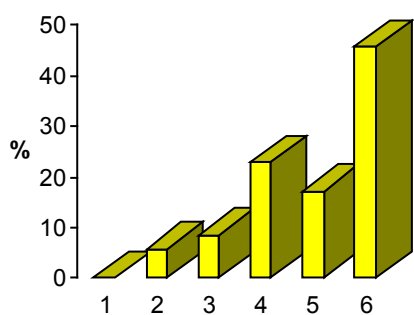
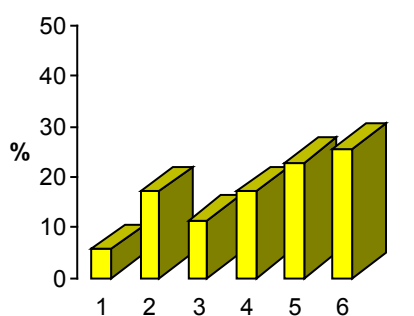
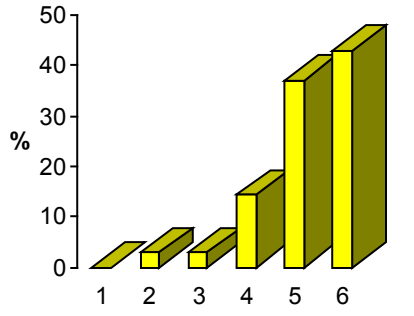
Section	Guideline	% Companies at each Stage
4	<b>Handling &amp; Storage</b>  Appropriate storage facilities in place	<ul style="list-style-type: none"> <li>Appropriate segregation policies for the materials being stored on site</li> <li>Ensure these facilities are secure</li> <li>Appropriate spillage containment provided</li> </ul> 
5	<b>Management of Materials</b>  Tracking of materials used in the production process	<ul style="list-style-type: none"> <li>Reconciliation procedure in place to account for hazardous materials brought on site</li> <li>Procedure in place to investigate discrepancies in raw material consumption</li> <li>Individual responsibilities for materials management clarified at each stage of the process.</li> </ul> 
6	<b>Distribution</b>  Packing of product produced   Distribution to Downstream User	<ul style="list-style-type: none"> <li>Utilise environmentally friendly packaging and materials, including reusable, bulk and non-hazardous materials</li> <li>Ensure packaging is appropriate to the material being distributed</li> <li>Ensure that correct labelling in on packaging that is being transported off site</li> <li>Assess transporters history in relation to safety, environmental performance, fitness and regulatory compliance e.g. Contractor Evaluation Form</li> </ul> 

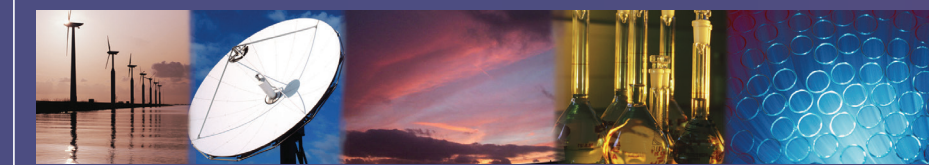


## Product Stewardship Code

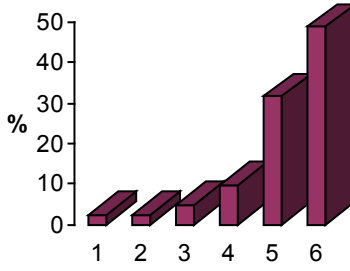
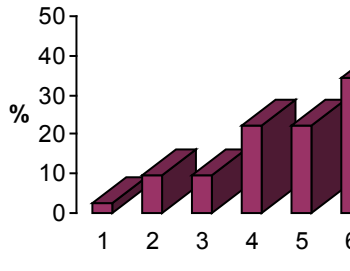
Section	Guideline	% Companies at each Stage
7	<b>Off site Incident Control</b>  Plan in place to deal with chemical incidents off site	<ul style="list-style-type: none"> <li>Emergency Contact number present on product documentation</li> <li>Provide information to the emergency services on the hazards associated with the product and how it should be dealt with</li> <li>System in place to respond/assist in off site chemical incidents</li> </ul> 
8	<b>Downstream User</b>  Downstream Users activities – consumption, storage and preparation	<ul style="list-style-type: none"> <li>Information on safe use and disposal of the product should be supplied either in SDS or by other method appropriate to the downstream users</li> <li>Request list of all uses on product from downstream users</li> <li>Verify that risk management measures employed by downstream users</li> <li>Verify that risk management measures employed by downstream user are compatible with yours</li> </ul> 
9	<b>Security</b>  Considerations of the various security threats to products	<ul style="list-style-type: none"> <li>Analysis of threats to product, on site and off</li> <li>Implementation of security measures</li> </ul> 

## Product Stewardship Code

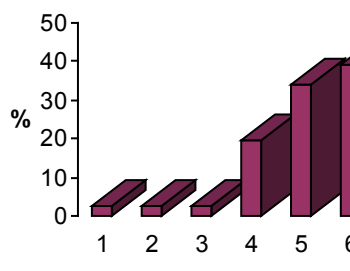
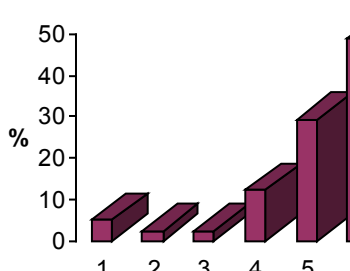
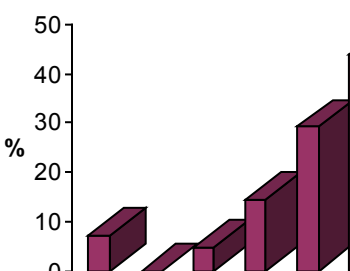
Section	Guideline	% Companies at each Stage
10	<b>Public Concerns and Issues</b>  Consideration of the relevant concerns of individuals or groups not in direct flow of product use	<ul style="list-style-type: none"> <li>Seek feedback from relevant stakeholder groups including government bodies, neighbours and environmental group</li> <li>Encourage different parts of the company to interact with outside interests to discuss EHS information, regulatory change etc</li> <li>Be actively involved in industry associations as a way to both give and receive the benefit of experience.</li> </ul> 
11	<b>Employee Education</b>  Employees should be trained and knowledgeable on product stewardship	<ul style="list-style-type: none"> <li>Incorporate product stewardship education into existing employee training programmes</li> <li>Provide additional training to employees who have product stewardship responsibilities e.g. logistics</li> </ul> 
12	<b>End of Life Cycle Control</b>  <i>Environmentally sound disposal is required</i>	<ul style="list-style-type: none"> <li>Reusing, recycling or disposal procedure for excess or unused material and packaging in place based on risk assessment.</li> </ul> 



## Security

Section	Guideline	% Companies at each Stage
<b>1 Senior management Commitment</b>  Senior leadership commitment to continuous improvement in Security Management through published policies, provision of sufficient and qualified resources and established accountability.	<ul style="list-style-type: none"> <li>Endorsement by top management</li> <li>Periodically reviewed (at least every 2 years)</li> <li>Include current main Security objectives</li> <li>Compliance with legislation</li> <li>Commitment to continuous improvement</li> <li>Communicated to all relevant personnel</li> <li>Commit adequate resources and personnel</li> </ul>	
<b>2 Analysis of Threats, Vulnerabilities and Consequences.</b>  Prioritization and periodic analysis of potential security threats, vulnerabilities and consequences using accepted methodologies.	<ul style="list-style-type: none"> <li>Security Risk/Hazard Assessment procedure in-place</li> <li>Security Risk assessment(s) carried out for all significant facilities, activities including contractor and visitor activities, product sales, distribution and cyber security</li> <li>Security Risk assessment procedure for all new processes and operations in place</li> <li>Security Risk and Hazards to be classified to allow prioritisation</li> <li>Assess ability to upgrade security as required.</li> </ul>	

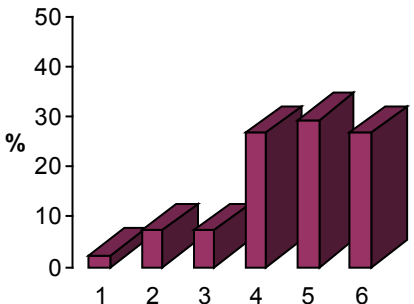
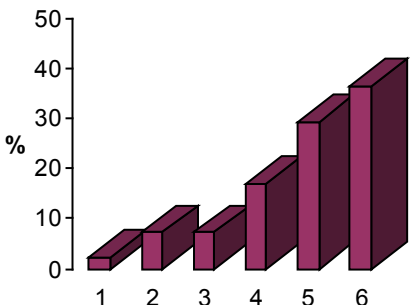
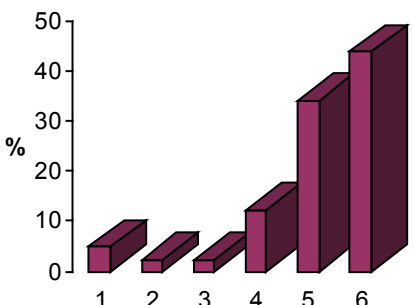
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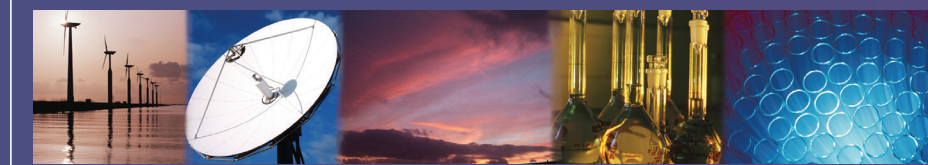
Section	Guideline	% Companies at each Stage
<b>3 Implementation of Security Measures</b>  Development and implementation of security measures commensurate with risks, and taking into account inherently safer approaches to process design, engineering and administrative controls, and prevention and mitigation measures.	<ul style="list-style-type: none"> <li>Identify and Assess potential Security Risks</li> <li>Implement adequate physical security arrangements</li> <li>Implement appropriate data security arrangements</li> <li>Implement transport security arrangements</li> </ul>	
<b>4 Information and Cyber</b>  Recognition that protecting information and information systems is a critical component of a sound security management system.	<ul style="list-style-type: none"> <li>Implement appropriate security of cyber assets including Information networks and IT systems.</li> <li>Security arrangements to include e-commerce, business management, telecommunications and process controls.</li> <li>Implement intrusion detection and access controls for voice and data networks, verification of information security practices applied by digitally-connected business partners, access to digital process control systems.</li> </ul>	
<b>5 Documentation</b>  Documentation of security management programs, processes and procedures.	<ul style="list-style-type: none"> <li>The key aspects of the Security Programme will be documented.</li> <li>All critical security processes will be documented</li> <li>All key security procedures will be documented.</li> </ul>	



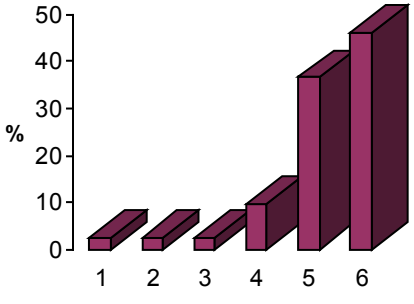
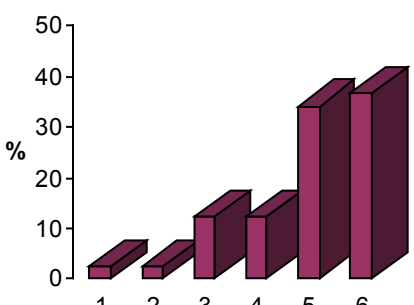


## Security

Section	Guideline	% Companies at each Stage
<b>6 Training, Drills and Guidance</b>  Training, drills and guidance for employees, contractors, service providers, value chain partners and others, as appropriate, to enhance awareness and capability.	<ul style="list-style-type: none"> <li>Keep pace with changes by enhancing security awareness and capabilities through training, drills and guidance.</li> <li>Contractors will be included when appropriate in security awareness programmes.</li> <li>Product distributors, emergency response agencies and other stakeholders to be included as appropriate.</li> </ul>	
<b>7 Communications, Dialogue and Information Exchange.</b>  Communications, dialogue and information exchange on appropriate security issues with stakeholders such as employees, contractors, communities, customers, suppliers, service providers and government officials and agencies balanced with safeguards for sensitive information.	<ul style="list-style-type: none"> <li>Maintaining open and effective lines of communication includes steps such as sharing effective security practices with others throughout industry</li> <li>Maintain interaction with law enforcement officials.</li> <li>Understand the requirement to protect employees and communities where they operate, while safeguarding information that would pose a threat in the wrong hands.</li> </ul>	
<b>8 Response to Security Threats.</b>  Evaluation, response, reporting and communication of security threats as appropriate.	<ul style="list-style-type: none"> <li>Promptly will evaluate all threats and respond as appropriate.</li> <li>Report real and credible threats to company and law enforcement personnel as appropriate.</li> <li>Assess ability to upgrade security as required.</li> </ul>	

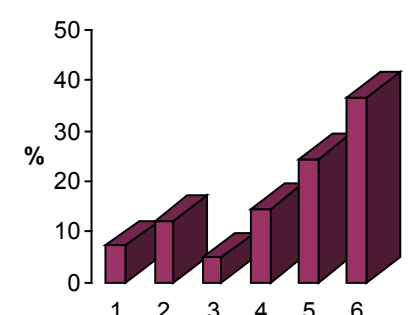
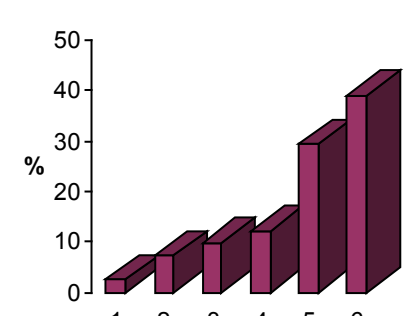
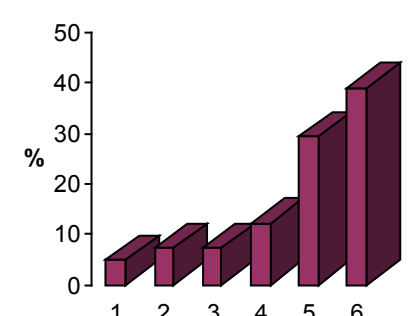


## Security

Section	Guideline	% Companies at each Stage
<b>9 Response to Security Incidents.</b>  Evaluation, response, reporting and communication of security incidents as appropriate.	<ul style="list-style-type: none"> <li>Promptly respond and involve government agencies as appropriate.</li> <li>Incorporate key learnings from all security incident investigations and share those learnings with others in industry and government agencies as appropriate.</li> <li>Implement corrective actions.</li> <li>Establish and maintain emergency response procedures, facilities and personnel appropriate to the operation.</li> <li>Carry out periodic testing of the emergency procedures (at least annually)</li> </ul>	
<b>10 Audits</b>  Audits to assess security programs and processes and implementation of corrective actions.	<ul style="list-style-type: none"> <li>Assess security programs and processes to affirm those programs and processes are in place and working and take corrective action as necessary.</li> <li>Assess the programs and processes of other companies with whom the company conducts business such as chemical suppliers, logistics service providers or customers as appropriate</li> </ul>	



## Security

Section	Guideline	% Companies at each Stage														
11	<p><b>Verification</b></p> <p>Verification that, at facilities with potential off-site impacts, the physical site security measures are implemented.</p> <ul style="list-style-type: none"><li>• Invite credible third parties – such as fire fighters, law enforcement officials, and insurance auditors – to confirm that the companies have implemented the enhanced physical security measures that they have committed to implement.</li><li>• Consult with these same parties as enhanced physical security measures are being considered and implemented.</li></ul>	 <table><tr><th>Stage</th><th>%</th></tr><tr><td>1</td><td>10</td></tr><tr><td>2</td><td>15</td></tr><tr><td>3</td><td>10</td></tr><tr><td>4</td><td>15</td></tr><tr><td>5</td><td>25</td></tr><tr><td>6</td><td>35</td></tr></table>	Stage	%	1	10	2	15	3	10	4	15	5	25	6	35
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12	<p><b>Management of Change</b></p> <p>Evaluation and management of security issues associated with changes involving people, property, products, processes, information or information systems.</p> <ul style="list-style-type: none"><li>• Evaluate and address related security issues in relation to all planned changes.</li><li>• Changes may include new personnel assignments, installation of new process equipment or computer software or hardware.</li></ul>	 <table><tr><th>Stage</th><th>%</th></tr><tr><td>1</td><td>5</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>15</td></tr><tr><td>4</td><td>15</td></tr><tr><td>5</td><td>30</td></tr><tr><td>6</td><td>40</td></tr></table>	Stage	%	1	5	2	10	3	15	4	15	5	30	6	40
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13	<p><b>Continuous Improvement</b></p> <p>Continuous performance improvement processes entailing planning, establishment of goals and objectives, monitoring of progress and performance, analysis of trends and development and implementation of corrective actions.</p> <ul style="list-style-type: none"><li>• Seek continuous improvement in all security processes.</li><li>• Review security programs and measures reflecting new knowledge and technology.</li><li>• Track, measure and improve security arrangements to keep people, property, products, processes, information and information systems more secure.</li></ul>	 <table><tr><th>Stage</th><th>%</th></tr><tr><td>1</td><td>5</td></tr><tr><td>2</td><td>10</td></tr><tr><td>3</td><td>10</td></tr><tr><td>4</td><td>15</td></tr><tr><td>5</td><td>30</td></tr><tr><td>6</td><td>40</td></tr></table>	Stage	%	1	5	2	10	3	10	4	15	5	30	6	40
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