

Innovation through our people

Sustainability Report 2015



We are the name behind the high performance ingredients and technologies in some of the biggest, most successful brands in the world: creating, making and selling speciality chemicals that are relied on by industries and consumers everywhere.

In this year's report

2015

Our Sustainable Approach

Chief Executive's Statement.....	02
Global Drivers of Change.....	03
Our Business Model.....	04
Our Sustainability Programme.....	06
Our Stakeholder Engagement.....	07

Our Material Areas

Product Stewardship.....	09
Product Design.....	13
Quality Assurance.....	17
Environmental Impact.....	19
Process Safety.....	24
Occupational Health & Safety.....	26
Our People.....	29
Knowledge Management.....	32
Diversity & Inclusion.....	34
Community Education & Involvement.....	35

Our Management & Governance

Delivering Sustainability.....	37
GRI Content Index.....	38
Glossary.....	40



Sustainability is so fundamental to us at Croda that it is embedded in our strategic thinking."

Steve Foots
Group Chief Executive



Where we operate

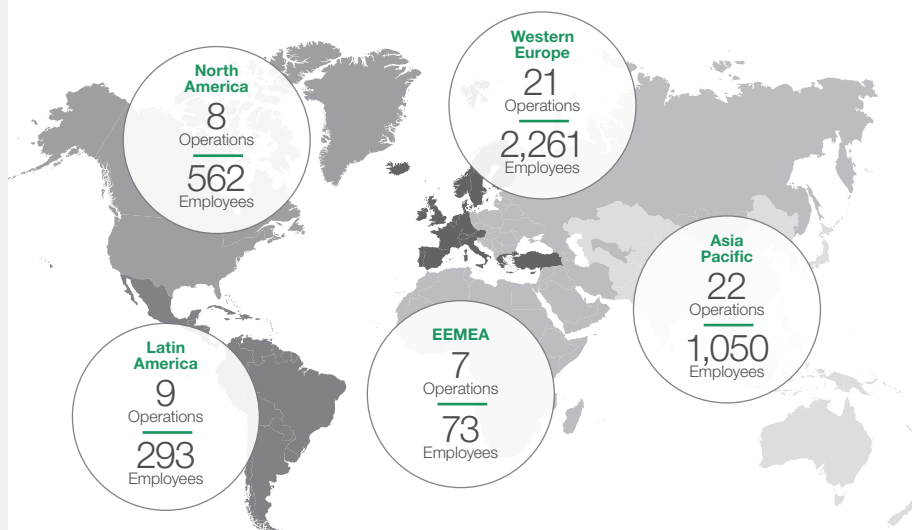
36

Countries across the world

4,239

Employees

Every day our global team works together, inspiring and influencing each other and our customers



Our market sectors

Personal Care

Personal Care focuses on ingredients for skin, hair, sun and colour cosmetic products.

p08

Life Sciences

Life Sciences comprises two complementary businesses, Health Care and Crop Care.

p16

Performance Technologies

Performance Technologies delivers innovative ingredients to a wide range of niche, mostly industrial, markets.

p23

Industrial Chemicals

Our Industrial Chemicals is a small, diverse sector based on selling co-streams, developing novel niche applications and undertaking toll processing.

p28

Our business model

Across all four of our market sectors we work in partnership with our customers to design ingredients that enhance everyday products. We manufacture globally and sell directly to our customers.



» Read more about how we deliver value on p04

Global drivers

3

Most important to our strategy

Changing demographics

The unprecedented change in the world demographic, with accelerated growth, an expanded elderly population and polarisation of health and wealth, requires solutions that support these challenges.

Fragile world

As rising temperatures compromise habitats and resources, carbon reduction is an increasing priority, along with addressing already stretched food, water, fuel and other natural resources.

Changing expectations and behaviours

Consumers increasingly expect businesses to take greater responsibility for the impact of their products, whilst legislators demand ever higher standards.



Read about how we are maximising these opportunities for growth on **p03**

Our material areas

10

Form our sustainability programme



Product Stewardship

p09



Product Design

p13



Quality Assurance

p17



Environmental Impact

p19



Process Safety

p24



Occupational Health & Safety

p26



Our People

p29



Knowledge Management

p32



Diversity & Inclusion

p34



Community Education & Involvement

p35

Our stakeholders

Ongoing engagement with our key stakeholders is a critical part of our future success and helps shape our sustainability programme. They include:

Customers & consumers

Investors

Suppliers

Local communities

Employees

Non-government organisations

Governments & regulatory bodies



Read more about how we engage with stakeholders on **p07**

Global Reporting Initiative

During 2015 a review of the GRI G4 General Disclosures and Standard Disclosures was conducted. As a result, we are reporting to a self-declared 'Core' accordance level for year ended 2015, reporting only disclosures that are of most importance to our Business.

Throughout this report, look out for the below indicators that show where information against our chosen GRI disclosures can be found.

GRI Specific Disclosures

GRI General Disclosures

A complete GRI report can be viewed online at www.croda.com/GRI.



Read more about our GRI disclosures on **p38**

Our reporting parameters

This report covers the sustainability performance of Croda International Plc for the period 1 January 2015 to 31 December 2015. The scope of this report is all wholly owned operations, plus those operations where we have significant management influence due to a majority shareholding. Unless otherwise stated, data provided throughout this report is for continuing operations.

In December 2015 we acquired Incotec Group BV. Due to the timing and nature of this investment, their activities have not been included within this report with the exception of our employee data on the opposite page.

Chief Executive's Statement

Sustainability is embedded in our strategic thinking



Sustainability is a crucial part of how we add value to our customers and enable them to make better choices."

Steve Foots
Group Chief Executive



Our embedded approach to sustainability

At Croda, we have continually stated that we are passionate about sustainability, not because we have to be, but because we believe that it is the right thing to do and good for business. This hasn't changed, but in recent years we have also seen our customers becoming more aware of the power of sustainability as a differentiator, both in the products they offer to their consumers and in the way they choose and work with their suppliers.

Our customers and their consumers, who increasingly demand that performance and responsible sourcing go hand in hand, are at the heart of our focus on sustainability. As such, sustainability is embedded in our strategic thinking and crucial to our organic and inorganic growth. By listening to our industry, our customers and our own people, we make sure that we respond to customer and consumer demands, act on wider market opportunities, and go above and beyond to do the right thing.

We have also seen a major shift in the external perception of our sustainability credentials; we have gone from being a highly regarded follower of sustainability, to being seen as a true leader in this field.

Initiatives such as our work in responsibly sourced palm oil and our investment into non-ionic bio-surfactants show that we are driving the industry forward, as well as our Business. We are focused on maintaining this leadership position.

Our key sustainability achievements in 2015

In 2015 we have committed to the biggest manufacturing site capital spend in our history, which will see US\$170 million invested into enabling our Atlas Point site in North America to produce non-ionic bio-surfactants (p10). This investment will give us a new and significant opportunity to support the growing number of our customers across all of our core markets who are launching new sustainable products. It will also allow us to mitigate risk in a key North American supply chain as we move to more sustainable, naturally derived feed stock.

I'm also very pleased to say that we have performed extremely well against our sustainability targets, all of which further differentiates our Business in the eyes of our customers. Some highlights include:

- Achieving Roundtable on Sustainable Palm Oil (RSPO) certification at 11 of our manufacturing sites, which collectively handle more than 99% of our palm oil derivatives volume (p10)
- Creating an ever more sustainable supply chain, as evidenced by our leading position in the amount of renewable raw materials we use to make our products, and through our continued engagement with Sedex, which will better enable us to mitigate social and ethical risks in our supply chain (p12)
- Ongoing focus on reducing our environmental impact as demonstrated by our efforts against our challenging targets and also by our completion of the full suite of CDP reports for climate change, water and forest (p20)
- Demonstrating our commitment to employee learning and development through the launch of our Learning Management System ahead of our targeted deadline (p30).

Widening the scope of our sustainable solutions

Our sustainability programme is now well established, so our position is rightly one of evolution rather than revolution: widening the scope of our sustainable solutions outside our Business to increasingly engage and align with our customers and consumers, suppliers, regulators, academics and communities.

In particular, we are increasingly focusing on the sustainable benefits of our products in use. Working closely with our customers to find 'green' solutions will allow us to satisfy their unmet needs in a sustainable way: enabling them to reduce the amount of product they need to use, increase performance levels and reduce packaging, amongst many other in use benefits.

Another major focus for the future is to work more closely with our suppliers to ensure that our whole supply chain operates ethically and with integrity.

Our people are at the heart of our innovation in sustainability

All of our success in sustainability can be attributed to our people, those whose daily business practices ensure that we do business the right way. Our high-level steering team for sustainability, supported by regional teams driving action plans, is responsible for making sure we deliver against our sustainability targets (p37). I would like to thank everyone within our Business for their daily contributions to our excellent performance in sustainability.

Our people are also key to how we grow our Business, particularly through our focus on innovation as a means to maintain our leadership in sustainability, such as those who are responsible for delivering New and Protected Products where we continue to place our attention on green chemistry. More widely, we are a knowledge-based business, and the know-how, decisions and actions of our excellent people is crucial to our continued success.

Steve Foots
Group Chief Executive

Global Drivers of Change

Maximising opportunities for growth

Our business strategy and sustainability programme is informed by three global drivers that are of most importance to us. These global drivers are influencing our customers' and their consumers' needs, so we must ensure that we respond by continuously evolving aspects of our operations, products and supply chain to future proof our Business. By doing so, we can create new opportunities and contribute to a more sustainable world for all.

Changing demographics

There is unprecedented change in the world demographic. We are seeing accelerated growth in population, which is greatly influenced by the expanding elderly population. Additionally, polarisation in wealth, health and urban and rural living is increasing, particularly in the developing world.



For us, this not only means an increasing need for everyday products that use our ingredients, but also an expanding and demanding middle class who, along with the needs of an ageing population, require us to work in close partnerships with our customers to develop speciality products. New markets in parts of Asia and Latin America, coupled with increased accessibility to consumer products across all of the markets in which we operate, sees us continually looking for investment and growth opportunities.

Therefore, we must also concentrate our efforts on designing products that can be used to support the challenges that this global driver presents, such as in crop care where improving vegetable and field yields will help to feed the growing population. It also affords us the opportunity to tap into new markets from which to employ our people and establish an increasingly diverse, multi-skilled workforce.

Fragile world

As rising temperatures compromise habitats and resources, carbon reduction is an increasing priority. Along with already stretched food, water, fuel and other natural resources, a new approach to consumption and re-use is required.



Consumers and businesses alike are all expected to do their bit to respond to the challenges of this global driver, but what sets us apart is a thorough commitment to product stewardship and our unique position in the use of natural, renewable raw materials. Additionally, our focus on designing products with sustainability benefits in use, such as engine lubricants to improve fuel efficiency and fabric detergents that enable washing at lower temperatures, will always be a priority.

In terms of how we operate, we continue to make large investments to minimise our environmental and social impacts, improve efficiencies and ensure that we meet high process safety and occupational safety standards throughout our operations. In a number of areas this requires collaboration up and down our supply chain to have maximum effect on the full life cycle of the products our ingredients go into, which helps us to future proof our Business and the world in which it operates.

Changing expectations and behaviours

Consumers increasingly expect businesses to take greater responsibility for the impact of their products, whilst legislators demand ever higher standards of quality, safety and environmental and social protection.



This impacts on what businesses produce and how they produce it, and it means that they need to operate in an accountable and transparent way.

Going above and beyond the minimum is 'what we do' in many areas of our Business, and through the business decisions that we make and the products we design, we are improving the sustainability credentials of our customers' products to meet both consumer demands and future regulatory requirements.

Therefore, we see this global driver as an opportunity to continue to strengthen our reputation through our robust quality assurance, risk and sustainability processes that are embedded at all levels of our Organisation. Our management of knowledge also ensures that information moves quickly, accurately and transparently within our Business, whilst we are committed to extending our positive impact beyond our Business and our customers, and into the local communities in which we operate.

Our Business Model

How we create value

Our value chain

To maximise our opportunities to grow and innovate, we need to understand all stages of our value chain, from staying up to date with global drivers (p03), to understanding our customers' priorities and delivering innovative solutions to build their brands. In doing so, we are helping them to create value and meet their consumers' expectations.

Consumer demand

Influenced by global drivers and mega trends, consumers dictate the unmet needs in the market

Customer need

Our customers seek the solutions that address their consumers' priorities and unmet needs

Croda

Our business model

Our business model is driven by strong customer relationships and a focus on the sustainable production of innovative ingredients.

Our resources

We work as one global team, sharing expertise and knowledge that is invaluable to our customers all over the world

- Highly skilled people
- Close customer relationships
- Valuable green chemistry
- Intellectual property
- High quality, sustainable supply chain

Engage

We work in close partnership with customers and develop emerging technologies around the world

Create

We design innovative ingredients that enhance everyday products



Working closely with our customers, we deliver the innovative solutions that build some of the world's biggest brands

Customer manufacture

Adding our high performance products to their formulations, customers manufacture the finished goods

Consumer benefit

Our innovations improve consumers' lives all over the world by addressing their unmet needs

Make

We manufacture to consistently high standards across the world

Sell

We generate revenue by selling ingredients directly to our customers

Creating value

Our agile approach delivers results to all of our stakeholders

- Innovative, differentiated ingredients for customers
- Sustainable solutions to meet customer needs
- Training and career development for our people
- Sustainable returns for shareholders
- Care for the environment



Our Sustainability Programme

Delivering a positive impact today for a better business tomorrow

Sustainability is not just embedded within our current business practice; it is an integral part of our business strategy, helping us to secure a better future.

All of our employees around the world contribute to sustainability on a daily basis. Whether it is one of our scientists developing greener chemistry, a procurement manager securing a sustainable supply of our raw materials or an operator ensuring plant safety at one of our manufacturing sites, we are all working towards delivering our commitment to:

- use renewable raw materials and environmentally sensitive and safe processes;
- produce innovative, high quality products with sustainable benefits; and
- support our people and the communities in which we operate.

Driving our programme

For us, sustainability is not just about the impacts of our current business practice. We also look simultaneously at the external demands on our Business from the world around us, so that we are equipped to deal with the challenges and opportunities for growth that these present.

This means considering the global drivers of change that are most important to our Business and that will alter the world in the coming decades (p03). It also means

closely considering our customers' needs and their consumers' demands, so that we can identify where we can catalyse change to have the greatest positive impact on the whole value chain.

Taking this approach enables us to consider what is most important to the Business, both today and in the future and it has shaped our sustainability programme.

Our priorities

We have 10 Material Areas in our sustainability programme, which focus on the impacts of our products, our operations and our people through our whole value chain. They also provide the framework for us to deliver one of our three key strategy priorities: investing in sustainability.

Each Material Area has a long term objective and targets against which we report progress; internally through quarterly reports, and externally through this Sustainability Report and our annual response to the Global Reporting Initiative (GRI).

Reviewing our programme

Our Sustainability Steering Committee, comprising of a group of experts from across the Business, reviews our Material

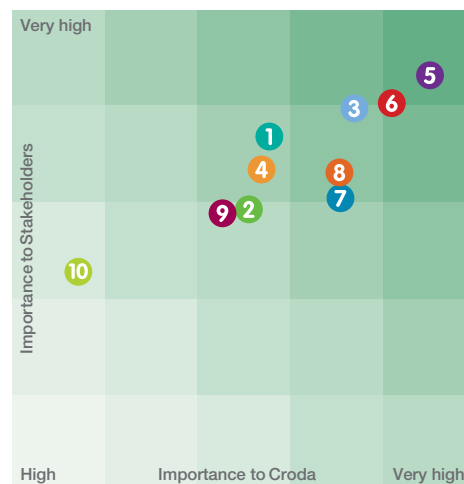
Areas annually with our Executive Committee. Each year, we verify the importance of our Material Areas on our Priority Matrix (see below) using insights from within the Business and from our external stakeholder engagement.

In 2015, we also developed a number of our Material Areas to better reflect opportunities for growth and the challenges we must address today and in the future. Key updates in 2015 include:

- Product Stewardship will increase in scope to include formal engagement with our upstream supply chain to further mitigate risks (p09)
- Product Design will now prioritise the communication of the sustainability benefit of our products in use, and will also extend to measure the performance of existing products, as well as New and Protected Products, to enable our customers to make better choices (p13)
- Knowledge Management, formerly Corporate Knowledge, has been repositioned to better reflect the fact that we focus on tools and processes to manage the knowledge of our people across the Business (p32).

Our Priority Matrix: Material Areas

1 Product Stewardship		6 Occupational Health & Safety	
2 Product Design		7 Our people	
3 Quality Assurance		8 Knowledge Management	
4 Environmental Impact		9 Diversity & Inclusion	
5 Process Safety		10 Community Education & Involvement	



Our Stakeholder Engagement

Shaping our sustainability programme

It is critical to the future of our Business that we consider and take necessary action to meet the needs and expectations of our stakeholders.

When developing our sustainability programme and the 10 Material Areas, taking into account the sustainability issues of most importance to our stakeholders is critical to our continued success.

To achieve this, we maintain a culture of communication with our internal and external stakeholders, regularly holding face-to-face meetings, hosting webinars and training sessions, attending events and seeking feedback. In 2015, focused activities took place with the following:

→ Customers and consumers

We held over 39,500 meetings with our customers

→ Investors

We sought one-to-one feedback on our sustainability programme from a number of our key investors during meetings where our strategic direction was discussed

→ Suppliers

We held in excess of 2,000 face-to-face meetings with raw material suppliers

→ Local communities

23.4% of our employees donated their time to a huge variety of community projects via our employee volunteering scheme, the 1% Club

→ Employees

We held face-to-face employee cascades across our operations throughout the year, with many locations meeting at least twice a year

→ Non-government organisations

We continued to work closely with the Roundtable on Sustainable Palm Oil, sponsoring and speaking at their key European event

→ Governments and regulatory bodies

We are active members of over 220 national and international industry associations.

Stakeholder dialogue

In 2015, we invited external guest speakers from our key stakeholder groups to input into our annual review meeting. This session, held in September, better enabled the Sustainability Steering Committee to reflect upon, and respond to, the demands of our customers, investors, academic institutions and other non-profit organisations.

We also conducted an internal global sustainability survey, asking middle and senior managers to consider the importance of our Material Areas on the short term and long term success of our Business.

Some highlights from the survey responses include:

→ Quality Assurance, followed by Product Design and then jointly Product Stewardship and Environmental Impact were considered the Material Areas of highest importance to our **short term growth**

→ Product Design, followed by Our People and Environmental Impact were considered the Material Areas of highest importance to our **long term growth**.

The outcome of the both the external stakeholder input and the internal survey was used to determine the relevance and longevity of our Material Areas and validated our Priority Matrix (p06).



We see Croda as a leader in advancing the many pillars of sustainability in the speciality chemicals sector. By working together with Croda to do the right thing, our business is gaining competitive advantage."

Leading multinational consumer products company



Croda demonstrates clear understanding and proactive commitment to Sharing Beauty With All."

Eric Bollens
L'Oréal

Sustainability and risk

Issues identified in our Material Areas offer both opportunities and challenges, and in parallel, potential risks and also risk mitigation measures.

Our Business risks are defined in our risk registers at many levels throughout the Group (see ARA p31). These registers identify mitigating controls for all risks, which are reviewed by our Risk Committee on a quarterly basis. The controls and monitoring that we have in place for both our Material Areas and our risk framework give us a comprehensive view of the actions we must take to safeguard the future of our Business in a sustainable way, whilst allowing us to identify and fully exploit new opportunities.

We continue to work closely with our risk management team to understand and define emerging risks arising in our Material Areas, with the objective to ensure that:

- the risk register addresses each emerging risk;
- activities around each Material Area consider these emerging risks; and
- as we continue to develop our Material Areas, any emerging risks are assessed, captured in the appropriate risk registers and shared with the Risk Committee.

By continuing to manage our Material Areas and risks together, we help to mitigate potential threats in these areas and maximise opportunities for future growth.

Majestem is the first active anti-ageing ingredient that delivers visible lifting of the skin on the neck and face to combat sagging caused by sun exposure and air pollution.

100%

First anti-sagging product on the market made from 100% natural raw materials

Derived from the Edelweiss plant, which grows spontaneously on mountain ranges and produces molecules with extraordinary resistance properties

Using plant cell cultures is a highly sustainable solution, with just 1kg of culture cells producing the same amount of active molecules as 5,000 Edelweiss flowers

The market need

Environmental factors such as UV radiation and air pollution can have a negative effect on the skin, causing skin sagging as well as wrinkles. Because of this, the need for anti-ageing products that go beyond targeting wrinkles is a major growing trend in beauty. Majestem is the first product developed that is proven to provide consumers with a high performance alternative to aesthetic surgery needed to remedy skin sagging.

The Croda solution

Skin cells need energy to keep rejuvenating and, therefore, looking young. This energy is provided by the part of the cell called the mitochondria. Majestem, an active ingredient obtained from cell cultures of the Edelweiss plant, helps stimulate the mitochondrial matrix, providing skin cells with the energy they need to re-establish lost tension resulting in a visibly more youthful neckline in just three weeks. It's also a highly sustainable solution, with just 1kg of culture cells producing the same amount of active substance as 5,000 Edelweiss flowers.

“

The emerging trend of anti-ageing beyond wrinkles is a major opportunity for us, and so I led the research and testing to address this unmet need with our product.”

Caroline Ringenbach Research Manager



Product Stewardship

Ensure that the ingredients we produce contribute positively to the environment and society throughout their lifecycle



Our Highlights

66.1%

of the raw materials we used were from renewable sources

11

manufacturing sites have RSPO sustainable palm oil certification

Greater engagement

with suppliers on social and ethical issues

Our Targets

● Met ● Ongoing ● Developed

- To have RSPO certification of all our relevant supply chains by the end of 2015
- Assess the social and environmental practices of our highest risk suppliers by the end of 2017
- Only supply RSPO certified palm oil ingredients by the end of 2017, subject to the feasibility of the supply chain
- Implement a system that will facilitate the traceability of palm derived raw materials by the end of 2017

Our Approach

Our responsibility in ensuring that health, safety and environmental protection are integral to the whole product lifecycle is through Product Stewardship. This spans every stage of our operations; from the sourcing of raw materials in an increasingly fragile environment, to environmentally sensitive manufacturing processes and the safe, efficient delivery, use and disposal of the products that contain our ingredients.

Product Stewardship is part of the International Council of Chemical Associations' Responsible Care® Initiative, which we fully support. It is a shared responsibility between chemical producers, suppliers and customers and requires close, sustained dialogue and working relationships. This means sharing information up and down the supply chain to manage risks, and to ensure that chemicals are used and managed safely and responsibly throughout their lifecycle.

Product Stewardship gives us a framework that we use to respond to the global drivers representing the biggest challenges and growth opportunities for us and our stakeholders (p07): a fragile world driven by climate change and the scarcity of natural resources, which is changing expectations and behaviours and creating more challenging legal and regulatory environments. Through successful Product Stewardship, we work the supply chain to meet the increasing demand for safe and sustainable chemical use to protect human health and the environment.

For us, Product Stewardship is managed through five core elements:

1. **Raw material sourcing:** To ensure that the raw materials we use to make our products are responsibly sourced
2. **Supply chain engagement:** To ensure that our suppliers act as ethically as we do in regard to areas such as human rights and the environment. In parallel, we support our customers in their product traceability programmes
3. **Product design:** To deliver the most innovative and sustainable ingredients to our customers (p13)

4. **Quality assurance:** To contribute to, and proactively seek, higher quality standards across product and operational aspects of our Business (p17)
5. **Responsible distribution, use and disposal:** To ensure that goods are delivered, used and disposed of reliably and safely, whilst minimising any negative effects on the environment.

2015 Performance

We have continued to develop and share best practice across our five core elements of Product Stewardship and plan to continuously improve. In 2015, this has focused on strengthening our supply chain engagement, particularly in the area of raw material sourcing, such as sustainable palm oil, and the social and ethical practices of our key suppliers. Our involvement in the Chemical Industry Association (CIA) Product Stewardship Steering Group, which has been formed to champion excellence across the whole value chain, is also helping to make sure that we take a step back to review the wider impact of our work.

Investment in renewables

In April 2015, we ceremonially broke ground at our Atlas Point manufacturing site in New Castle, Delaware on the first North American plant that will lead to the production of non-ionic bio-surfactants through the use of ethylene oxide derived from bio-ethanol.

Construction has since commenced with the project on schedule to start production in the first half of 2017. When the new plant becomes operational, the surfactants that we offer will enable our customers to meet their goals to deliver 100% renewable, high performance products to their consumers and it will allow us to mitigate risk in a key North American supply chain as we move to a more sustainable, naturally derived feed stock. Our heritage and growth strategy have a strong focus on investment in sustainable and innovative technologies, we believe that this project not only represents our commitment to meeting our customers' expectations, but also our long standing dedication to putting sustainability and innovation into action.

Raw material sourcing

We continue to source a high level of our raw materials from renewable sources and during 2015 the figure for our global purchases was 66.1%. This is a unique position for a business of our size and

nature and it is one of the areas where we lead the way in sustainability. However, there are other sustainability credentials of our raw materials that are also very important. A primary area of concern is whether they may contribute to deforestation, particularly in the area of oil crops. The origin of all our raw materials is mapped in our global procurement software system, SAP, so we know from what it is made and from whom it is sourced. This has enabled us to make excellent progress in the area of sustainable palm oil in 2015 and supports our filing of the CDP Forest report, which aims for deforestation free supply chains.

Sustainable palm oil and derivatives

2015 has been a year of accelerated progress in developing our physical supply chains for Certified Sustainable Palm based products. Building on our work over the past three years, the transformation to RSPO Certified physical supply chains is progressing rapidly. Highlights include:

- 11 manufacturing sites RSPO Supply Chain Certified (SCC), which handle over 99% of our palm-derived raw materials to provide our customers with certified products
- More than a 30% increase in the number of products available that support Certified Sustainable Palm Oil (CSPO)

→ Two-fold increase in the number of customers converted to purchasing products supporting CSPO derivatives, covering all geographical regions and all of the markets we supply

→ Three-fold increase in sales volumes supporting CSPO compared to 2014.

We began developing the physical supply chain of CSPO derivatives in 2012 when our Singapore manufacturing site was RSPO Supply Chain Certified to handle Palm Oil (PO) and Palm Kernel Oil (PKO) derivatives. Since then we have expanded RSPO SCC to our relevant sites that use palm derivatives to meet our 2015 target of having all relevant sites certified.

Since our journey began, we have seen consumer pressure to support sustainable palm growing year on year. Our calculations estimate that industries delivering consumer goods, such as home care and personal care, consume around 5% of the world palm output. This is mainly as derivatives, as they are key ingredients to the essential composition of such products, with around 70% of cosmetics containing palm derived raw materials, for example. Since we produce the widest range of personal care ingredients globally, we believe that we must help drive industry transformation to CSPO derivatives.

Our policy against deforestation

Croda is committed to reducing its contribution to deforestation and any resultant impacts on climate change and biodiversity through working with organisations such as the Roundtable on Sustainable Palm Oil (RSPO), and with suppliers and customers to ensure the traceability of critical raw materials back to suitably accredited sources.



Croda continues to play a key role in driving industry transformation to source and deliver physical certified sustainable palm oil products. Through commitment and engagement with suppliers and clients, in 2015 Croda has helped put the complexity into perspective, effectively overcoming many of the obstacles and successfully influencing others in the supply chain to become sustainable. Once again the RSPO highly commends the efforts made by Croda during this year and the tangible results achieved by the company in their journey towards making Certified Sustainable Palm Oil the norm."

Datuk Darrel Webber CEO of the RSPO



Croda was among the pioneer European users of sustainable mass balance type palm based raw materials.”

A Major European Oleochemicals Supplier

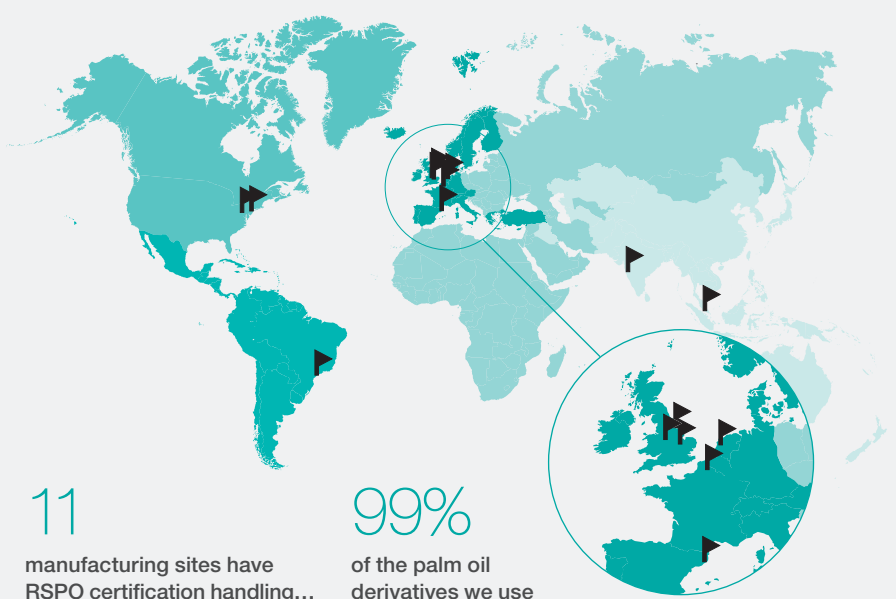
However, the need to support sustainable palm does not have the same level of consumer or customer awareness in all regions, but we know that this is ultimately a global concern. This is why our efforts are consistent in all the regions in which we operate, as exemplified by being RSPO SCC in Asia, Europe, North America and Latin America.

As a result of all our work on CSPO, we are well advanced in meeting the demands of the Consumer Goods Forum, a global industry network with membership comprising of 400 retailers and consumer goods manufacturers across 70 countries, which includes our customers. In August 2015, this group issued Sustainable Palm Sourcing Guidelines, with recommendations including RSPO certification of supply chains and palm oil sourcing policies that seek transparency and support the production of deforestation-free sustainable palm oil. Importantly, consumer goods companies are encouraged to disclose timebound company policies, implementation plans, goals and progress that support deforestation-free and sustainable palm oil in their individual supply chains.

In 2015, we have also continued to make progress against our target to implement a system that will facilitate the traceability of palm derived raw materials by the end of 2017 by working with our key suppliers in all regions. This is enabling us to better understand our entire palm oil derivative supply chain and identify gaps in traceability. We appreciate the high level of support received from many of our key suppliers on this topic, which along with this initial gap analysis, will allow us to focus our efforts in 2016 and 2017 on implementing a traceability system.

A global issue, a global concern

We have RSPO certified manufacturing sites in all four regions in which we operate



Driving industry transformation to CSPO

We continue to work closely with our major consumer goods customers who are leading the market transformation in adopting physically certified CSPO ingredients.

We have presented on CSPO at industry meetings in Europe, North America and Latin America to our customers and supermarket retailers. We continue to fully support the RSPO by taking part in a panel debate at the third European Roundtable in Amsterdam and publishing a Home Care and Personal Care industry study on the RSPO website in conjunction with The Guardian. In association with RSPO we also contributed to The Guardian roundtable discussion and subsequent publication on the topic in October. Other activities included continued engagement with NGOs and presenting at the World Oleochemicals Conference.



Supply chain engagement

This year we have committed to greater collaboration with our suppliers to access the social and ethical sustainability of our supply chain. The first important milestone in our journey is to look at the social and environmental practices of our key suppliers.

In previous years, our efforts in this area focused on ensuring that suppliers understood our Code of Conduct, but we are now going much further than this. Working with Sedex, the Supplier Ethical Data Exchange, we are implementing a phased engagement with our most important suppliers to mitigate any potential risks globally. These suppliers are being asked to provide social and ethical data that will be assessed by Sedex to identify any areas of concern and non-compliance. Where areas of concern are identified, a physical audit will be carried out, so that we can work in partnership with our suppliers to improve supply chains globally.

Supply chain engagement, particularly on ethical and legal business practices, such as modern slavery and environmental issues, will help us mitigate against emerging supply chain risks and complements what we are already doing around the traceability of the physical supply chain of our raw materials.

Product design

An essential part of our five-step approach to Product Stewardship, Product Design focuses on how we use our raw materials, technology and chemistry together to deliver the most innovative and sustainable ingredients to our customers. It is a Material Area in its own right and is explored in detail on page 13.

Quality assurance

Another fundamental element of Product Stewardship, Quality Assurance focuses on how we influence, adopt, use and measure against global quality standards to improve our products and ultimately ensure consumer safety. Again, due to its importance to our Business, it has been assigned its own Material Area, details of which are on page 17.

Ensuring product safety and compliance

The Product Safety and Regulatory Affairs (PSRA) team works closely with our development chemists to help demonstrate that our products won't have an adverse effect on the environment during their whole lifecycles, including in use. Jane Lawson, Head of Global PSRA comments:

"We ensure that our products comply with all necessary regulatory requirements, and that we have the information to both prove compliance and support our customers to make claims and achieve, for example, Green Seal and Eco Label Approvals."

In 2015, the work of PSRA also included focusing on one of the United Nations International Agreements, *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity*, which aims to provide a legal framework around the fair and sustainable use of natural resources. Jane commented:

"We are fully supportive of using this protocol to ensure that if we use indigenous raw materials, we do so sustainably in a way that protects local communities and environments. We have a team working globally on this to identify which areas of our Business it impacts and how. We are also working with the European Federation for Cosmetic Ingredients to create advice and best practice for industry on complying with Nagoya."

Jane Lawson
Head of Global PSRA, UK



Responsible distribution, use and disposal

By bringing our manufacturing operations close to where our customers are, we continue to minimise the negative environmental impact of our distribution network and keep transportation costs as low as possible.

The work that we do for Authorised Economic Operator (AEO) indirectly supports the efforts we make across our distribution network. As an internationally recognised quality mark indicating that our role in the international supply chain is secure, and that our customs controls and procedures are efficient and compliant, it provides our customers with the highest level of assurance that their goods will be delivered on time without import and export delays. By the end of 2015 all of our European manufacturing sites and warehouses had met the AEO standard.

The impact of our products during use and disposal is also very important to us; it is a fundamental element in our Product Design process, supported by our dedicated Product Safety and Regulatory Affairs (PSRA) team, who work closely with our development chemists to ensure that the ingredients we produce will not have an adverse effect on the environment throughout their whole lifecycles.

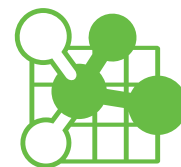
The Future

We will continue to progress towards achieving our 2017 targets: to implement a system that will facilitate the traceability of palm derived raw materials; and to only supply RSPO certified palm oil ingredients, subject to the feasibility of the supply chain.

Our focus in 2016 will be to build on the commitment we have made to engage with suppliers around social and ethical sustainability in order to achieve our target: assess the social and environmental practices of our highest risk suppliers by the end of 2017. This will include requesting, assessing and acting on supply chain data via Sedex, and working in close collaboration with suppliers to improve our supply chain and gain assurance that they are operating to the same high ethical standards that we adopt in our Business.

Product Design

Deliver the most innovative and sustainable ingredients to our customers



Our Highlights

11.4

was the average score of our new products against the 12 Principles of Green Chemistry

65.8%

of new products met all 12 Principles of Green Chemistry

82.3%

of new products deliver a sustainable benefit in use

Our Targets ● Developed ○ New

● Measure our new products and key existing products against the 12 Principles of Green Chemistry throughout 2016

● Identify any sustainability benefits in use of our new products and key existing products throughout 2016

○ Measure the renewable content of our new products throughout 2016

Our Approach

Innovation is one of three key strategic priorities for our Business, and our Material Area of Product Design focuses on sustainable innovation to deliver the desired effect in our customers' products in the right way.

Driven by the ever increasing global concerns around climate change and the scarcity of natural resources, customer and consumer demand for sustainable products continues to grow. A consideration for the use of natural, renewable ingredients is, and always has been, an important part of our product innovation, but we also focus on efficient and sensitive processes in manufacture, as well as minimising environmental impact during and after use.

By ensuring that these key elements of sustainability are integral to our Product Design, we can continue to create the innovative products that:

- help our customers to achieve their sustainable supply chain targets;
- minimise environmental impact, such as reducing waste;
- provide a major opportunity for Business growth; and
- increasingly provide sustainable benefits in use, adding value to our customers and their consumers.

Over the last five years, our approach to Product Design has been focused on the 12 Principles of Green Chemistry*. These Principles remain central to our thinking, but we recognise that there is much more we can do to proactively improve both the sustainability of our products and their impact.

This includes measuring the sustainability benefit of our products in use, and measuring the percentage of renewable raw materials in our new products. Through these activities, we are increasingly engaging with our customers to help them make more informed choices, and deliver the sustainable products and benefits that their consumers demand.

2015 Performance

During 2015, we underwent consultation with our global Research and Technology (R&T) teams to clarify our approach to Product Design. It is, and always has been, wholly aimed at delivering new or improved ingredients to achieve our customers' required effects and this must never change.

However, there are many influences on the choice of ingredients to meet these required effects, the vast majority of which are market driven. This is increasingly leading to us being asked by our customers to help them achieve the required effects in the right way for their consumers.

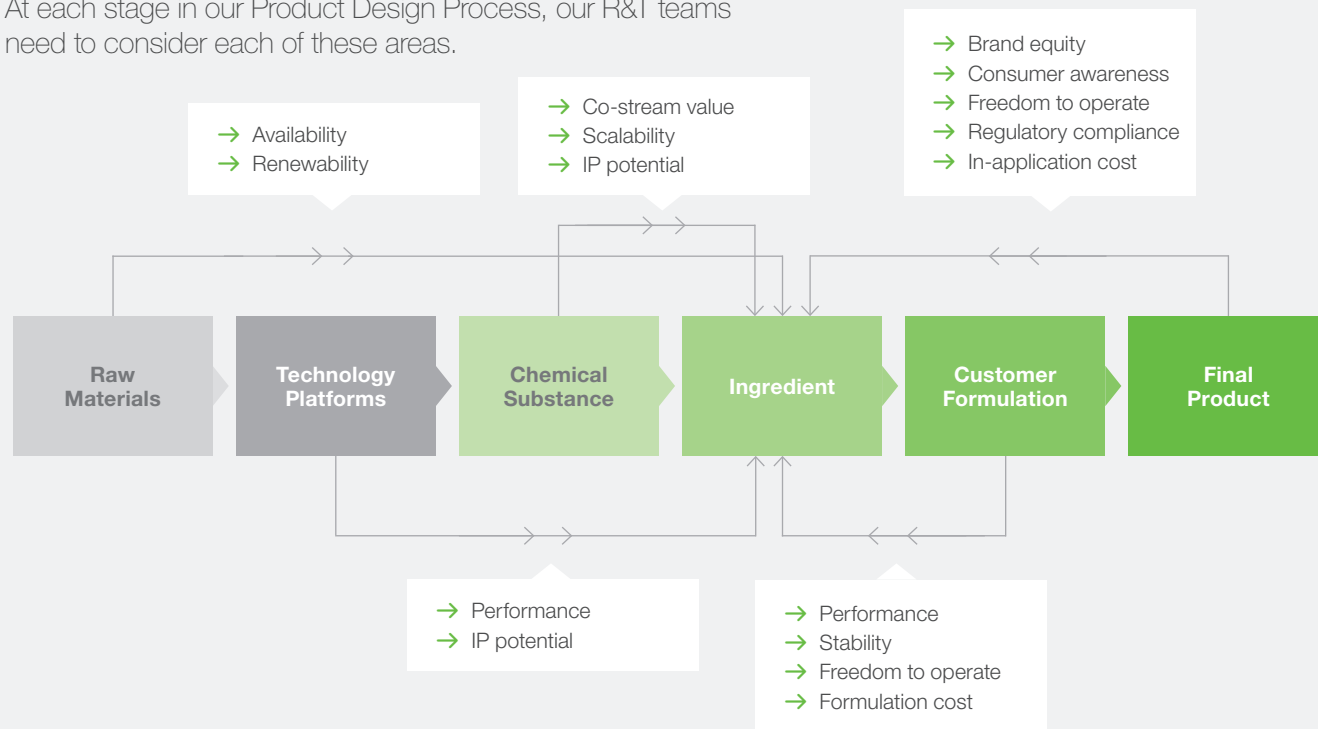
The diagram on page 14 shows all the different influences our R&T teams need to consider when selecting which chemical ingredients to work with, such as:

- Will there be enough of the raw material available to meet production needs and is it renewable?
- Can we patent the use of the molecule in the application so that we own the Intellectual Property (IP)?
- Can we make use of or sell any of the co-streams that we create when producing the product?
- What do our customers require of the final product in terms of performance, stability, cost, etc?

* 12 Principles of Green Chemistry. Anastas, PT and Warner, JC, 1998

Product Design Process

At each stage in our Product Design Process, our R&T teams need to consider each of these areas.



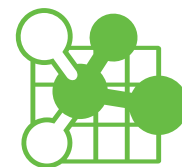
To help us achieve our customers' effects in the right way, during 2015 we have agreed to focus on the following three priorities relating to Product Design:

1. **Deepening our understanding of the market trends** that will increasingly influence our Product Design choices, encompassing:
 - a. Market insight from customers and end users
 - b. Upcoming regulatory changes
 - c. Industry best practices.

2. **Improved measuring and reporting** on the sustainability credentials of our new ingredients, and extending this to existing ingredients, in three key areas:
 - a. Inherent sustainability according to the *12 Principles of Green Chemistry*
 - b. Sustainable benefits in use, which was formerly part of our 13th Principle, but is now a fundamental part of Product Design and so given equal weighting to the 12 Principles
 - c. Renewability and sustainability of raw materials in new products.

3. **Communicating our products' sustainability credentials the market** to enable our customers to make informed choices when testing and specifying new ingredient effects and to educate their consumers.

We believe that these key priorities will help us to: understand exactly what the customer and their consumers want from our products; provide the innovations that will answer those needs in the right ways; and, ultimately result in a better, future-proofed product portfolio, contributing to our sustainable innovation strategy and long term business success.



In 2015 we launched 79 new products

On average these products scored 11.4 against the *12 Principles of Green Chemistry* and 65.8% met all 12 Principles. 82.3% also recorded a sustainable benefit in use, delivering an even greater social and environmental value.

New product launches in 2015 included:



Cithrol™

Personal Care

Capitalising on the advanced cleansing trend in Asia and Europe, this mild surfactant enables the creation of high performance microemulsion or oil based facial cleansers, which don't require cotton pads for application and are easy to rinse off with less water.



Priplast™

Coatings & Polymers

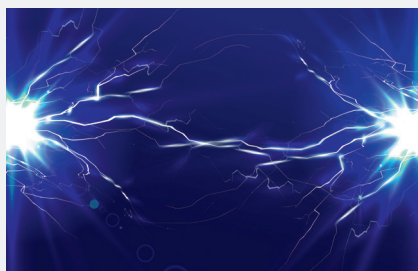
Priplast allows formulators to extend product lifetime in a wide range of coating and adhesives applications. For example, it adds good initial strength and high elongation to structural adhesives, enabling automotive designers to use new lightweight materials to replace metal parts, resulting in lower fuel consumption and emissions.



Cithrol™

Health Care

This high purity version of an established pharmaceutical excipient has allowed our customers to develop and commercialise a controlled release technology. This has enabled a significant reduction in the frequency of drug injections, resulting in reduced packaging and, more importantly, fewer trips to hospitals for patients.



Crodastat™

Home Care

This antistat is highly effective at reducing the attraction of dust to surfaces, keeping them cleaner for longer and requiring less frequent cleaning. This therefore reduces the use of cleaning products and emissions of hydrocarbon propellants.

The Future

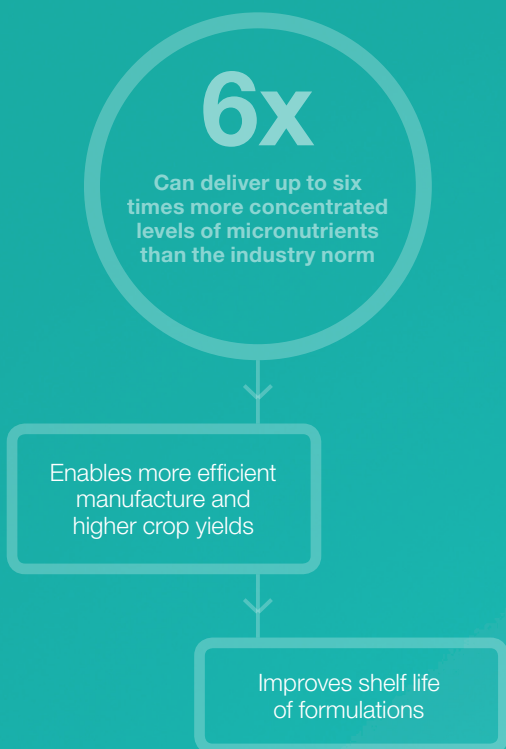
In line with our new priority to improve measuring and reporting in Product Design, we will be introducing two developed targets for next year and a new target:

Measure our new products and key existing products against the 12 Principles of Green Chemistry throughout 2016: this is an extension of an existing target, and now encompasses the measurement of key existing products against the *12 Principles of Green Chemistry* to better inform our customers on our wider product portfolio.

Identify any sustainability benefits in use of our new products and key existing products throughout 2016: Previously our 13th Principle, we have identified 'sustainability benefits in use' as one of the three core strands of measuring and reporting in Product Design, as we are aware that a great number of our ingredients offer these benefits in our customers' products. Measuring this will enable us to deliver maximum business and customer value.

Measure the renewable content of our new products throughout 2016: Whilst we will continue to measure the renewable raw material content of our products sold, we will place greater emphasis on measuring and reporting this for our new products as it will be a useful trend projection tool for the renewable content of our product portfolio in years to come.

Atlox aids the successful growth of plants by allowing higher concentrations of micronutrients to be incorporated into crop protection products. This delivers higher crop yields with less energy-intensive manufacturing.



The market need

Micronutrients are essential for successful growth of plants; without their presence, the consequences can range from stunted growth, leaf discoloration and loss of fruiting bodies, all of which lead to reduced crop yields. Atlox is a dispersant that helps suspend higher concentrations of particles – the micronutrients – in liquid formulations, therefore delivering better crop protection products for use in agrochemical manufacturing. As a result our customers manufacturing process is more efficient and less energy intensive, water consumption is reduced and less packaging is required.

The Croda solution

Micronutrient formulations should be highly concentrated, with many particles in a formulation. Producing these formulations can be challenging, as splitting and solidifying is a common occurrence. Additionally, the chemistry of micronutrients tends to be incompatible with products such as herbicides. Using Atlox, customers can: incorporate higher levels of micronutrients within their formulation; more easily combine micronutrient formulations with other plant protective products; and gain the added benefit of improving the shelf life of formulations.

“

Working closely with our customers, I was able to identify their performance needs and work with the team to find a solution.”

Marcia Werner Research and Technology Manager

“In the development of this exciting new product, I focused on testing during the laboratory phase to ensure it was ready for global manufacturing and launch.”

Douglas Porto Market Applications Specialist



Quality Assurance

To contribute to, and proactively seek, higher quality standards across product and operational aspects of our Business to ensure consumer safety



Our Highlights

220+

industry associations engaged in dialogue with us in 2015

100%

of our manufacturing sites operate to ISO 9001 and ISO 14001 quality standards

100%

of our manufacturing sites supplying cosmetic ingredients operate to the EFfCI GMP quality standard

Our Targets

● Met ● Ongoing ● Developed ○ New

- Ensure that our recent acquisitions in China and Italy meet ISO 9001, ISO 14001 and OHSAS 18001 by the end of 2016 and that any subsequent manufacturing acquisitions meet these minimum global standards within three years of final completion where appropriate
- Apply the new Group Quality Manual throughout 2016
- Develop an internal Group Quality Policy and Manual by the end of 2015
- Gain EXCiPACT certification for another three manufacturing sites producing pharmaceutical excipients by the end of 2016
- Ensure that our major sales and distribution centres meet ISO 9001 by the end of 2018 to further enhance delivery of quality services and products to our customers

Our Approach

Our approach to Quality Assurance (QA) goes much further than product quality and encompasses the whole customer experience of doing business with us. With complex global supply chains, increasing consumer expectations and the media spotlight on business ethics and integrity, our holistic approach to quality ensures continued compliance with the changing legal and regulatory environments, which further differentiates us and enhances customer relationships. This approach is fundamental to our ongoing success.

As we continue our global growth, we must focus on ensuring that customers receive the same quality experience whichever part or place of our Business they deal with. This will build consumer trust and maximise customers' confidence in us as a low risk supplier. In 2015 we focused on rolling out global systems and standards that created a platform for consistency across the whole business by introducing QA Key Performance Indicators (KPIs). This allowed us to make informed business strategy decisions and ensured a balanced approach to mitigate quality risks. We also continue to work with a number of key industry organisations to actively increase quality standards across our sectors, thereby safeguarding our employees, customers, supply chains, communities and ultimately the consumers who use our ingredients.

There are two areas of focus in our approach to QA:

1. **Internal:** To ensure that we manage and implement quality and compliance effectively across our Business
2. **External:** To provide assurance of consistent quality and compliance to our customers, consumers, suppliers and other stakeholders.

The Plan-Do-Check-Act (PDCA) cycle is embedded in all of our management systems and continues to be central in our approach to QA through the alignment with our own four step process:

1. **Influence:** Building awareness and sharing knowledge via trade associations and governments, for example, to help raise global quality standards and contribute to policy development
2. **Adoption:** Committing to relevant policies, principles and projects internally and being prepared to go beyond requirements to deliver enhanced consistency in quality globally
3. **Implementation:** Acting on our commitment by embedding our approach into our management systems and verifying this through KPIs and audits
4. **Review and revise:** Ensuring continual improvement and evaluations by completing the PDCA loop.

2015 Performance

Influence

Throughout the year we have continued to proactively engage with technical committees and industry associations that feed into the development of new policies that are important to our Business. In 2015, this was with more than 220 organisations around the world. Iain Moore, Head of Global Quality Assurance, said:

"Our leading role in developing Good Manufacturing Practice (GMP) standards for cosmetic ingredients through the European Federation for Cosmetic Ingredients (EFfCI) has become even more influential and far-reaching, as we have seen EFfCI go from a European to a global quality brand. We have also been a lead player in transforming standards for pharmaceutical excipients through our work with EXCiPACT and we are seeing more customers starting to value this."

Iain Moore
Head of Global
Quality Assurance, UK





Sharing our expertise with industry

Richard Cawthorne, Research and Technology Specialist, sits on the United States Pharmacopeia's Excipients Expert Committee, which is concerned with monographs (reviews of fundamental topics or issues) for oils, fats, waxes and surfactants. Richard commented:

"My involvement in the Committee allows us to initiate new monographs, we currently have four in development covering Health Care excipients. It also gives us input into significant revisions of existing monographs. This means we are playing a lead role in developing new standards that will help our customers. It also gives us a privileged view of new developments, so that we can manage potential threats to our Business."

Richard has also been a member of the European Pharmacopeia's Fatty Oils and Derivatives expert group since 2001. He represents the UK in this forum and the work programme of the group encompasses monographs that apply to over 200 of our products.

Richard Cawthorne
Research and Technology
Specialist, UK



Adoption

Our focus on embracing customer and regulatory requirements has continued this year, with our adoption of EXCiPACT at more manufacturing sites and a growing number of products available to customers with sustainable palm oil certification. The introduction of the latter relied on our agile quality systems to implement changes without raising any doubts about the quality of our products.

We have also made good progress against the targets we set in 2013:

To ensure that our acquisitions in China and Italy meet ISO 9001, ISO 14001 and OHSAS 18001 by the end of 2016
When IRB in Italy achieves OHSAS 18001 in 2016 this target will be met, as all other certifications were achieved in 2015.

To gain EFfCI GMP certification for our new manufacturing site that produces cosmetic ingredients and EXCiPACT certification for three manufacturing sites producing pharmaceutical excipients by the end of 2015

Our IRB manufacturing site in Italy achieved EFfCI GMP, which means that all of our cosmetic ingredient sites worldwide now operate to this manufacturing standard. Our Chocques site in France achieved EXCiPACT in 2015 and our manufacturing site in Singapore obtained certification in early 2016. The remaining site, Ditton in the UK, has changed business circumstances, meaning EXCiPACT is no longer appropriate for the site.

"Not only is EXCiPACT adding value by assuring customers of the safety of our products, but it is also proving helpful in replacing the need for separate customer audits and the associated time costs and travel requirements."

Melissa O'Grady
QA Manager, UK



Implementation

In 2014 we introduced KPI reporting on quality performance and quality management systems for all of our manufacturing sites. In 2015 this has enabled us to perform benchmarking activities, and identify and share best practices. For example, one of our sites has identified a way to use data from SAP to perform a quality analysis to demonstrate manufacturing consistency across many batches. This methodology has now been adopted at other sites as an example of best practice.

We have also developed our KPIs to include specific targets around improving product quality. Although we are already operating to a very high standard, this is helping us to identify those activities that are the biggest threat to our customers and feeds into our PDCA improvement cycle. This forms an essential part of our work to enhance and harmonise the customer experience, as well as improving quality consistency and mitigating risk.

Review and revise

This year we have made excellent progress in developing our Group Quality Manual, a continuation of 2014's work to produce a Group Quality Policy. We have also seen a shift in the way we review and revise issues identified as a significant threat to our customers' experience of working with us. As well as solving these locally, we now have a framework in place to address them from a global perspective. We apply the PDCA cycle on each area before identifying best practices, and then make the necessary change through revising and issuing policies and procedures to allow all of our sites, and our people, to make the improvements.

The Future

As customer and regulatory expectations develop and move beyond the quality of our products into all other areas of our operations, we will continue to ensure that the necessary requirements are adopted and implemented within everything we do. We expect this to increasingly include our sales and distribution network, as well as our manufacturing sites, so we have introduced a new target to ensure that all of our major sales and distribution centres meet ISO 9001 before the end of 2018. An additional three of our manufacturing sites will also achieve EXCiPACT certification by the end of 2016.

Another new target will ensure that we apply our new Group Policy Manual in 2016 to further enhance the way we interface with customers, predominantly through the promotion of a consistent customer experience wherever we are in the world. We will also continue to engage with technical committees and trade associations, with the objective of improving the quality of our products and assuring consumer confidence in the safety and efficacy of the ingredients we make.

Environmental Impact

Minimise the impact of our operations



Our Highlights

24.2%

energy from non-fossil fuels

6.5%

reduction in GHG emissions since 2010

48.9%

reduction in VOC emissions since 2010

56.8%

reduction in waste to landfill since 2010

5.5%

reduction in water consumption since 2010

Our Targets ● Met ○ New ⚡ Not Met

Core Targets

2011-2015 targets (baseline year 2010)

- ⚡ To have 25% of the Group's total energy requirements generated from non-fossil fuel sources by 2015
- ⚡ Based on 2010, to reduce total Group energy consumption by 5% by 2015
- Based on 2010, to reduce total Group VOC emissions by 10% by 2015
- Based on 2010, to reduce total Group waste to landfill by 20% by 2015
- ⚡ Based on 2010, to reduce total Group water consumption by 10% by 2015
- ⚡ To achieve 100% compliance with effluent discharge consents by 2015

Other Targets

- To implement a programme to track further Scope 3 greenhouse gas emissions data by the end of 2015
- To complete a feasibility study to explore ways to reduce the quantity of aqueous organic material going to effluent treatment plants by the end of 2015

2016-2020 targets (baseline year 2015)
continuation from 2011-2015 targets

- Generate 30% of the Group's total energy requirements from non-fossil fuel sources by the end of 2020
- Reduce total Group energy intensity by 5% by the end of 2020
- Reduce total Group VOC emissions by 10% by the end of 2020
- Reduce Group waste to landfill by 10% by the end of 2020
- Reduce total Group water withdrawal by 10% by the end of 2020

- Externally verify Group carbon and energy data from 2016

Our Approach

Investing in sustainability is a key priority in our business strategy and integral to this is a focus on the global driver of Fragile World (p07). With this in mind, and as an ethical and responsible business, we continually seek ways to minimise the environmental impact of our operations, focusing on:

- reducing our greenhouse gas (GHG) emissions by improving energy efficiency and increasing energy usage from non-fossil fuel sources;
- reducing our waste to landfill; and
- reducing our impact on the world's depleting water resources.

At the end of 2015, over 190 nations attending the Paris United Nations Climate Conference (COP21) adopted the landmark

agreement to control climate change and limit the global average temperature to a rise 'well below' 2°C (3.6°F), compared to pre-industrial levels. The chemical industry has a significant part to play in achieving this and we must make sure that as our Business grows and we inevitably need to expand our manufacturing activities, we do so more efficiently by reducing energy intensity: producing more added value for every unit of impact on the environment.

2015 Performance

Greenhouse gas (GHG) emissions

In 2015, our total Scope 1 and 2 GHG emissions were 183,263Te. This year marks the end of our five year review period and, we have achieved a fall in GHG emissions of 6.5% since 2010, despite a slight increase from 173,658Te in 2014.

Our Scope 1 GHG emissions include VOC and our net CO₂ emissions, which excludes emissions from the burning of recently sequestered carbon. We have achieved an overall 18.6% reduction in Scope 1 emissions since 2010. However, our higher energy consumption and decreased proportion of non-fossil fuel energy used during 2015 has resulted in a Scope 1 GHG emissions increase of 4.8% on 2014, from 115,713Te in 2014 to 121,257Te in 2015 (Figure 1, see p20).

Scope 2 GHG emissions have increased from 57,945Te in 2014 to 62,006Te in 2015. This is largely due to the increase in electricity usage for manufacturing plants that were newly commissioned in 2015, and partly due to changes in the fuel mix utilised by the power grids in the countries in which we operate.

Our overall strategy to reduce our GHG emissions has four focuses:

1. Focus on non-fossil fuel

Having achieved 25.5% in 2014, last year we fell just short of our target to source 25% of total Group energy requirements from non-fossil fuels, achieving 24.2% (Figure 2). This was because of increased energy requirements, which was met with fossil fuels. We also continue to be adversely affected by factors outside our control that increase our reliance on fossil fuels, principally changes in the blend of energy sources used to generate grid-supplied electricity in the countries in which we operate our manufacturing sites. Despite this, when the new Combined Heat and Power (CHP) plant is commissioned in 2016 at our Gouda manufacturing site in the Netherlands, which will run on biologically generated fuel, we expect to exceed our target. Due to the continuing investment in this and other projects, we have increased our 2020 non-fossil fuel usage target to 30%.

In 2015, our use of non-fossil fuels and renewable energy has eliminated 25,811 tonnes of CO₂ emissions, which is equivalent to taking 13,040 cars off the road or powering 4,609 homes. Over the past five years, we have eliminated 87,442 tonnes of CO₂ emissions, the equivalent of taking 44,175 cars off the road for a year or powering 15,615 homes for a year.

2. Focus on energy reduction

In the past five years, we have seen an overall increase in total Group energy consumption of 4.0% (Figure 3). This is a consequence of substantial business growth and expansion of capacity, including commissioning new plants, which has resulted in the base load of energy usage increasing as much as 50%

Bio-Gas at Gouda

The concentration and purification of crude glycerine, a co-product stream, is energy intensive and so, at our Gouda manufacturing site in the Netherlands, we have developed an industrial-scale process to decompose it biologically to produce methane.

The methane is generated in very large anaerobic fermentation vessels that feed a 2 MW gas engine, which can then produce electricity for site consumption. In addition, because the input raw materials to the site are 100% bio-based, the resulting energy is also renewable, which supports our drive to reduce non-fossil use. The project, which comes on stream in 2016, attracted EU Life Plus funding of €4 million.

at some manufacturing sites. In addition, during the interim period between the decommissioning of the old gas turbine CHP plant at Gouda and the bio-gas system becoming operational (see above) we have had to purchase more electricity

Figure 1: Changes in GHG emissions (Tc CO₂e) relative to a 2010 baseline year (revised data)*

2015	121,257	62,006
2014	115,713	57,945
2013	125,516	55,302
2012	141,606	39,820
2011	133,505	41,338
2010	149,006	47,010

■ Scope 1 ■ Scope 2

* Scope 1 emissions are calculated using the International Energy Agency's published conversion factors for the tonne equivalents of CO₂. Scope 2 emissions are determined using the country emission factors for electricity generation published by the International Energy Agency. Emissions from our sales offices and distribution centres are not material in comparison to our manufacturing sites, so they are not included.

Figure 2: Non-fossil fuel consumption (%) relative to 2010 baseline year

24.2% Behind target

2015	24.2
2014	25.5
2013	24.2
2012	15.3
2011	16.0
2010	14.7

Figure 3: Energy consumption (GJ) relative to 2010 baseline year

+4.0% Behind target

2015	4,370,613
2014	4,207,517
2013	4,320,962
2012	4,006,639
2011	3,806,872
2010	4,201,023

Figure 4: VOC emissions (kg) relative to 2010 baseline year

-48.9% Exceeded target

2015	157,047
2014	157,075
2013	159,118
2012	248,124
2011	280,025
2010	307,154



from the grid to fulfil requirements. However, we view this as a short term loss for a long-term gain: increased energy demands are a good sign that our Business is growing and succeeding, but we now need to increase our renewable capacity to service the demand.

3. Focus on volatile organic compounds (VOCs)

The drive to reduce Group VOC emissions continues and last year we again exceeded our 10% reduction target, achieving a 48.9% reduction since 2010 (Figure 4). VOCs make a relatively small contribution to our total GHG emissions, and CO₂ remains our largest area of focus, but we still believe that it is important to invest time and resource into controlling losses to the atmosphere of these compounds because it makes good business sense. For example, by relocating a process from Rawcliffe Bridge to Leek where we identified the potential for greater efficiency, we were able to achieve a major overall reduction in the combined VOC emissions from the two sites.



Our team redesigned the clathration process to reduce VOCs, which resulted in a 82% reduction from when the process was at our Rawcliffe Bridge site."

Rob Walthall Site Director, Leek

4. Focus on Scope 3

Our initial crude estimates of our Scope 3 Carbon emissions used a formula based on our raw material and capital projects spend, which yielded figures apparently much larger than our Scope 1 and 2 emissions. This prompted us to seek more direct and ideally more accurate ways of assessing Scope 3 Carbon emissions, so that opportunities for reduction can be more readily isolated, in line with our target for the year, and we have extended our formula to consider benefit in use savings. The tracking of CO₂ arising from fuel and transport, continues as before.

Renewable energy projects

As an example of our continuing commitment towards carbon reduction, in the past five years we have invested in multiple energy efficiency and renewable energy projects. All of our capital investments must consider energy efficiency and the opportunity to improve our energy sourcing where it is cost-effective to do so.

Projects implemented in recent years across our manufacturing sites and sales offices include:

- Steam feed from municipal incinerator at Chocques, France
- Wind turbine at Hull, UK
- Photovoltaic solar panels at Edison, and Atlas Point, North America
- Thermal solar panels at Thane, India
- Ground source heating at our Global Headquarters in Cowick, UK
- Biofuel CHP at Leek, UK
- Landfill gas CHP at Atlas Point, North America
- Ground source heating at Mevisa, Spain
- Bio-gas system at Gouda, the Netherlands.

Energy Tsars champion energy reduction

As a result of our Operations Best Practice Forum, in 2015 we created the role of Energy Tsar at each of our manufacturing sites, with the objective to look for efficiencies and improvements on site.

"I am an operator, so I have a good knowledge of the site and its energy usage. Every month we identify a focus area such as steam leaks, for example, and we then gather data and work out how we can make improvements."

The key to the success of the scheme has been finding creative people who are credible amongst their peers, enabling them to interact and get energy messages across positively and effectively.

Neal Featherstone
Energy Tsar,
Rawcliffe Bridge, UK



Figure 5: Waste to landfill (Te) relative to 2010 baseline year

-56.8%
Exceeded target

2015	2,106
2014	2,670
2013	2,853
2012	2,419
2011	2,779
2010	4,870

Figure 6: Water consumption (m³) relative to 2010 baseline year (revised data)

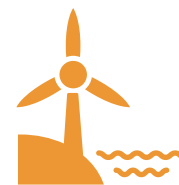
-5.5%
Behind target

2015	8,378,528
2014	7,827,876
2013	7,712,361
2012	7,964,806
2011	8,343,097
2010	8,866,921

Figure 7: Effluent discharge compliance (%) relative to 2010 baseline year

99.83%
Behind target

2015	99.83
2014	99.79
2013	99.32
2012	99.64
2011	99.05
2010	98.95



Waste to landfill

Over the five year target period, we have achieved a massive 56.8% reduction in waste to landfill, far surpassing our target of a 20% reduction and improving upon our 2014 reduction of 45.2% (Figure 5, see p21). Our top performing sites were:

Atlas Point in North America reduced waste at source by improving plant efficiencies.

“We have worked hard to decrease waste to landfill as a key site objective. We focused on improving first pass quality through process consistency as well as recycling other streams going to the landfill. This has been a site-wide effort and the results are very impressive.”

Robert Stewart
Managing Director
of Operations,
North America



Mevisa in Spain improved their Effluent Treatment Plant (ETP) and waste management, therefore generating less organic material as waste.

“Although production at Mevisa has increased substantially in the past few years, our waste to landfill has reduced by 50%. We are very proud of this, because it shows the great commitment of the local team to sustainability activities.”

Sergi Ruscaleda
Site Director,
Mevisa



Mill Hall in North America discovered new avenues of beneficial reuse for manufacturing by-products and materials that would otherwise have been disposed as landfill waste.

“By repurposing waste water solids for a non-landfill beneficial reuse, the Mill Hall waste reduction team have helped us achieve a 75% reduction in what we send to landfill since 2010. A great accomplishment that shows tremendous support to help meet our sustainability goals.”

Robert Strouse
Site Director,
Mill Hall, North America



Water consumption

By the end of 2015, we achieved a 5.5% reduction in water consumption compared to our 2010 baseline year (Figure 6, see p21). Our manufacturing sites in Mevisa, Spain, and Shiga, Japan made the biggest savings. At Mevisa, external pressure to reduce water consumption over several years has led to us replacing single-pass cooling systems with cooling towers and refrigerators that recycle cooling water. This has resulted in a 34% reduction in water consumption during our five year review period. However, we have missed our 10% reduction target, because operational difficulties with a novel water recovery unit at our Gouda site meant that more water needed to be extracted than expected.

Compliance with effluent discharge consents

Our high performance levels have continued and this year we have achieved 99.83% compliance, with only three of our sites not fully compliant (Figure 7, see p21). The new Effluent Treatment Plant (ETP) at our Campinas manufacturing site in Brazil has now been built and commissioned. Early indications are that it is highly effective and we will have more detailed information on its performance over the coming months. We also achieved our target to assess the feasibility of reducing the input of waste aqueous organic material being sent to treatment plants. Work has been initiated in 2015 by the team at our Singapore manufacturing site to compare the detailed arisings of organic carbon in their plant effluent streams with the same streams at our similar manufacturing sites. The results are encouraging and new areas of best practice are being identified as the project rolls on into 2016.

The Future

Our strategy for the next few years will continually develop, particularly in light of COP21, with an ongoing focus on using renewables. By the end of 2016, our intention is to have revised our company energy and GHG strategy covering the next ten years. This will identify opportunities for investment in renewable energy and energy efficiency, as well as Scope 3 quantification and reduction.

We will continue our commitment to reduce our energy intensity as our Business grows. The investment into our non-ionic bio-surfactant plant at our Atlas Point manufacturing site in North America (p10) will result in more energy being required by the site, so we are planning further investment in our landfill gas fuelled CHP systems to make up the shortfall.

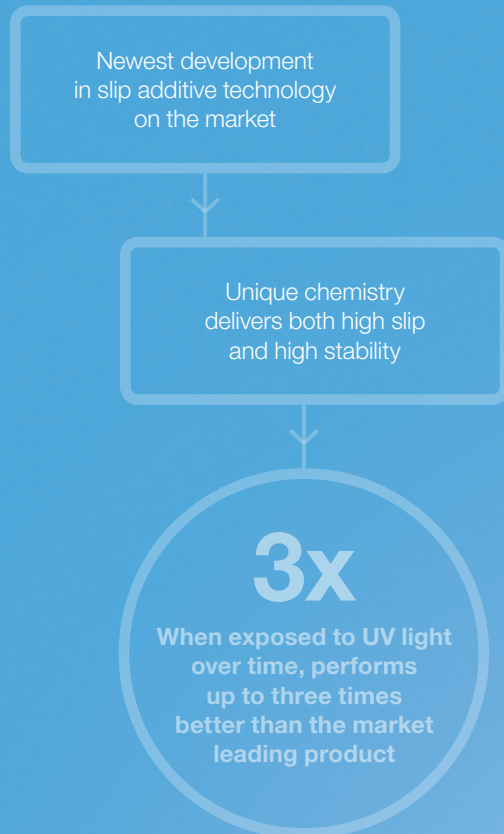
Our successful strategy for reducing waste to landfill will continue through an increased use of recyclable materials and a reduction of waste at source from 2016. We will also launch a review looking at how we source packaging to ensure that it is recyclable wherever possible.

Our focus on reducing water withdrawal remains. The water recycling projects at our Gouda site in the Netherlands are poised to deliver their full potential water withdrawal savings, once fully commissioned, and schemes for reduction of water usage are being examined at other sites. Additionally, our proactive approach to improve the efficiencies of our effluent treatment facilities will be realised by first looking at how we can reduce the amount of waste water being generated.

We continue to seek ways to reduce our overall environmental burden whilst improving profitability. As a company based largely on the use of natural, renewable raw materials, we feel that we have considerable scope to achieve this dual goal.

Incroslip™

Incroslip is the newest innovation in slip additive technology used between surfaces of plastic to reduce friction. It provides unique, high, long lasting performance without breaking down, changing colour or giving off odour during exposure.



The market need

Slip additives are used in plastics to reduce friction between surfaces. Without them you can't open carrier bags or remove a screw top from a plastic bottle. Standard slip additives can demonstrate poor 'oxidative stability', which means they can lose performance, change colour or give off unpleasant odours and tastes during high temperatures or ozone sterilisation.

The Croda solution

Incroslip is the only slip additive on the market that delivers both high stability and high slip. It provides oxidative stability in applications where taste and odour is critical, such as food packaging, and in automotive applications where high temperatures and UV light can cause other common slip additives to breakdown. It also performs better in 'tighten and release' applications, such as screw caps and can be used to lower friction during, for example, bag production and packaging operations. It also has anti-scratch properties when used in various polymer systems, such as plastics in automotive interiors.

“

There are numerous benefits of Incroslip when used in different applications, and it was my responsibility to conduct the testing on development samples and the finished product to prove its unique performance attributes.”

Phil McCoy Lead Applications Scientist

“Incroslip is new and unique chemistry, so I led the work on scaling this up from development samples to full-scale commercialised production at our manufacturing site in Hull, UK.”

Matt Jenkins Lead Engineer



Process Safety

Keeping our manufacturing sites safe and legally compliant

Our Highlights

Zero

major process safety incidents

Improved

Process Risk Reviews following an external review

Extended

syllabus for the Hazard Study Leaders Academy

Our Targets ● Ongoing ○ New

- Ensure that all Basis of Safety documents comply with new internal standards by the end of 2016
- Ensure that all Process Risk Reviews are compliant with our internal quality targets by the end of 2018
- Conduct an independent review of our Process Risk Reviews for high hazard processes by the end of 2020
- Embed our Process Safety Management System at all manufacturing sites by the end of 2016, and at any subsequent acquisitions within three years of final completion where appropriate, through relevant management training programmes

Our Approach

As a global operator of chemical manufacturing processes, we have a duty of care to our employees, customers and surrounding communities to keep our operations safe, minimising the risk of injury, financial loss and reputational damage. This involves a detailed appraisal of what could go wrong with each chemical process and how this could be prevented, carried out by skilled engineers and operational employees working consistently within the framework of our own Process Safety Management (PSM) system.

Our PSM system is characterised by its use of the Safety Management Standard OHSAS 18001, to which all of our manufacturing sites are certified and new acquisitions will be within three years of acquisition. Apart from providing a robust framework for PSM, this standard requires continual improvement to be built in, delivering a more resilient system year after year through:

- Continued supervision by the Group Safety Health Environment and Quality (SHEQ) Steering Committee, comprised of our Executive Committee, Regional Operational Managing Directors and Vice President of Sustainability, who are all responsible for setting the strategy, monitoring progress and driving improvement
- Involvement of top management through the National Skills Academy for the Process Industries (NSAPI, now known as Cogent) leadership training and planned visits by Board members to manufacturing sites, with a deliberate focus on process safety
- Our Process Safety Model, which has been subject to rigorous peer review and has the support of our Board, providing the framework for PSM at all of our manufacturing sites
- A balanced set of leading and lagging Process Safety Key Performance Indicators (KPIs), which are subject to a formal quarterly review by the SHEQ Steering Committee and can provide an early warning system for any problems
- The development of process safety technical capability at each manufacturing site through our own Hazard Study Leaders' Academy, which incorporates accreditation from the University of Derby.

2015 Performance

During 2015 we saw no major process safety incidents across the Business and we are on track to meet all three of our targets. This reflects the huge amount of effort and investment we have dedicated to this Material Area. In fact, in recognition of the massive impact Process Safety can have on our people, the Business and local communities, it is assessed as the single most important Material Area by our internal and external stakeholders (p06).

One of the prime building blocks of our investment in Process Safety has been the establishment of our own Hazard Study Leaders (HSL) Academy to ensure consistency with our process safety practitioners. Additionally, we designed a syllabus for a Post Graduate Certificate in Leading Process Safety Hazard Studies for those wishing to take their studies further, which is accredited by the University of Derby in the UK. This year our first cohort of students completed their postgraduate certificate. They are now beginning to feed their learnings back into the Business, sharing best practice and insights for the benefit of all; a process that will continue as each new cohort graduates. We have also been able to talk at various conferences about our experiences in establishing the HSL Academy and the value it delivers for our Business, demonstrating industry leadership in Process Safety.



Croda Hazard Study Leaders

“As more and more cohorts qualify on the Hazard Study Leadership Programme, we will evolve into an ever more confident and cohesive team of Hazard Study Leaders. We are certainly seeing this now in the HSL Academy as we increasingly draw upon our self-directed studies, sharing our learnings from reflections on our own practices and those beyond the Business, to help ourselves to continuously improve.”



Zoë Law

Process Innovation
Lead Engineer, UK

“The Hazard Study Leaders Academy is really helping to improve our capability in Process Safety by supporting individuals to build and share knowledge. The experience has enabled me to play a key role in our Basis of Safety document training and I am now also looking to share some of my learnings with other engineers in the Business.”



Joseph Estrada

Process Engineer,
Singapore

“Drawing on my experience in hazard study, I acted as a mentor to four of the students in their first year of study towards a postgraduate certificate. This included offering advice, reviewing their work before submission and encouraging deeper reflection where necessary. The postgraduate programme is an excellent opportunity for personal growth and continual development beyond the HSL Academy, as well as increasing talent in the Business.”



John Wincek

Process Safety
Specialist,
North America

Monitoring progress and driving improvement

Process Risk Reviews (PRRs) are carried out every five years to make sure that our Process Risk Assessments (PRAs), which every new chemical process is subjected to, adhere fully to our PSM framework. In 2014, we embarked on an external peer review of a cross section of our PRRs to ensure that we are examining our process risks in sufficient breadth and depth, and in 2015, we received the results of the external scrutiny. This identified a number of areas for improvement, which we then focused on in an HSL Academy workshop. This exercise was so successful that we will now look to apply the learnings across all the PRRs and we will repeat the external review on more of our PRRs in 2016 and beyond.

Getting LOPA right

The external PRR review identified a number of areas for improvement connected with the way we implement Layers of Protection Analysis (LOPA); a technique that assesses the overall effectiveness of independent measures designed to protect the integrity of our process equipment.

Consequently, we have now made LOPA training a key part of our Academy syllabus, which will enable all of our future Hazard Study Leaders to become exemplars and tutors on this issue.

The Hazard Study Leaders' Academy has also been extremely successful in uniting Process Safety excellence across the Croda World; our last Academy meeting was attended by representatives from all of our 18 manufacturing sites, and last year we translated the whole syllabus into Mandarin and delivered it to the entire Croda SIPO engineering team.

In 2014 we launched a global alkoxylation (AO) user group with representatives from each of our seven manufacturing sites with an AO plant. The focus was to check the efficiency of our systems by simulating an emergency scenario and using this to identify a programme of improvement.

In 2015 we began to reap the rewards of this exercise, with learnings shared and improvements made. Work in this area will continue next year and the user group plans to meet in Singapore.

Commitment to training

We recognise that in order to deliver on our commitments to Process Safety, we must build management leadership skills and Process Safety Management knowledge at all levels of the organisation. The Hazard Study Leaders' Academy is part of this, but we train every level of our Business on process safety and in 2015 have focused on the following:

- Having completed the first round of Process Safety Leadership training (accredited by Cogent, formerly NSAPI) for all Group Executive Committee members and Business Directors, we are now looking to provide refresher training every three years
- We have committed to producing a new course, using professional input, for Site Engineers and Operations Managers
- Still placing great reliance on our manufacturing site process safety training, which is aligned with our Basis of Safety documents, to answer the fundamental needs of those who are operating our plants.

The Future

Our first cohort has now graduated from the University of Derby's postgraduate certificate in Leading Process Safety Hazard Studies. Their expertise will be used by all manufacturing sites across the world to share learnings and lead new studies. This will result in a high level of consistency in our approach, increase opportunities for best practice and create rich careers for people in this specialist area. Alongside this, we are also planning to implement additional Process Safety Leadership training with our site management teams.

The PRR external review in 2015 was so valuable to us that it is now addressed in a new target: Conduct an independent review of our Process Risk Reviews for high hazard processes by the end of 2020.

Occupational Health & Safety

Empower employees to have health and safety at the forefront of their thinking

Our Highlights

New

Behavioural Safety Observation System

Zero

injuries recorded at two manufacturing sites during major construction work

Our Targets

● Met ○ New ⑦ Not Met

- ⑦ Target a lost time injury rate of below 0.2 per 100,000 hours worked in 2015 as a milestone on our journey to the aspirational goal of zero injuries
- ⑦ Adopt the principles of organisational mindfulness across our manufacturing sites, as appropriate to their existing Behavioural Safety Programmes, by the end of 2015
- Develop and implement, during 2015, a programme that raises awareness of potential health & wellbeing issues that could affect our employees
- Achieve a sustained OSHA Recordable (TRC) injury rate in the top quartile of chemical manufacturing companies with more than 1,000 employees
- Implement a Behavioural Safety Observation System across all manufacturing sites by the end of 2017
- Implement a programme of Interaction Management training for line managers to enable clear communications with employees about safe behaviours by the end of 2017

Our Approach

We set ourselves high standards for personal safety at every one of our global locations, with an aspirational goal of zero harm. With this in mind, we have a three-point strategy for personal safety improvement:

1. To focus on those sites with relatively poor performance
2. To improve our incident investigation and root cause analysis
3. To implement our new mandatory behavioural safety observation system.

Our key lagging indicator of occupational safety remains the lost time injury (LTI) rate, which we track for our employees, our contractors and the two combined. This rate expresses the likelihood of injury whilst working at one of our operations for 100,000 hours, roughly equivalent to a lifetime of work.

In the past, we have seen major global incidents caused when companies focus on personal safety issues, such as slips and trips, to the detriment of keeping their processes safe. We have a responsibility to take care of all our employees and in recent years this has led us to focusing our attention on process safety, judged to be the single most important Material

Area in our sustainability programme and one which, if we get it wrong, puts our people and the communities in which we operate at serious risk. Now that this is firmly embedded (p24), we are in a position to increase our focus on improving our approach to Occupational Health & Safety.

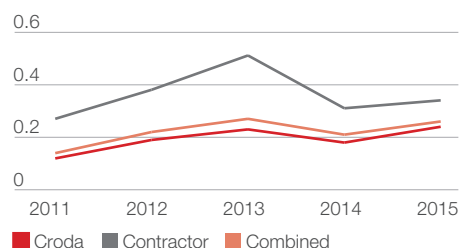
2015 Performance

In 2015, our combined LTI rate was 0.26 compared to 0.21 the previous year, against our target of 0.2 per 100,000 hours worked. Our aspirational goal of zero injuries remains, and despite not hitting our target last year we have seen considerable localised improvements by focusing on sites with previously poor occupational health and safety performance.

For example, following a spell of poor performance by one of our major manufacturing sites, our Safety Health Environment and Quality (SHEQ) Steering Committee tasked the site with producing a recovery plan for health and safety improvement. Since this was put in place, injury rates have responded positively. We will now look to replicate this approach in other under-performing areas of our Business, which we continue to identify through the use of a safety Balanced Scorecard.

As well as tracking the LTI rate for our employees, we also focus on our contractors. The extra scrutiny we have applied to them over the past two years has resulted in a substantial improvement in the contractor LTI rate. After implementing multi-layered contractor safety improvement initiatives, last year both our Chocques (France) and Singapore manufacturing sites carried out major construction projects with zero contractor injuries. This was a particularly impressive achievement for Singapore where contractors with a wide range of skills and languages were required to communicate and work together. We are now applying the learnings from this to ensure that occupational health and safety is prioritised during our Atlas Point construction project in North America; our single biggest to date (p10).

Lost time injury rate (per 100,000 hours worked)





Safety standdowns

Last year, due to a number of incidents, we held a safety standdown at our manufacturing site in Singapore, taking the site offline for a whole day to talk about nothing but safety.

As part of this we played a short film documenting the real-life experience of an employee who had suffered a serious injury some years ago on another manufacturing site, which has since been translated into different languages for use by other sites. The aim was to show the consequences of injury and the importance of safety in a very personal way, demonstrating the effect on the individual, their family and co-workers. We also carry out safety standdowns at our Rawcliffe Bridge and Atlas Point manufacturing sites every year. Incidents are also memorialised to help prevent them happening again, and it is a strategy that we will look to implement elsewhere in our Business as required.



Driving safety improvements

In 2014, we set a target to adopt the principles of organisational mindfulness into existing Behavioural Safety Programmes. Throughout 2015, several sites have incorporated elements of this philosophy into their local programmes. However, this was not deemed appropriate for all sites globally, and will be superseded by a new scheme to be launched in 2016. As part of this, every Site Director will choose a committee of people to represent each department, whose task it will be to identify the safe behaviours that they want to improve. The committees will meet locally and regularly to monitor the behaviours, assist improvement and give feedback on performance against a set of attainment targets.

The Rawcliffe Bridge pilot programme included a first-line supervisors training element; a course that aims to increase supervisors' confidence in monitoring performance and making changes in behaviour. This will now be extended to other areas of the Business and included with the new Behavioural Safety Observation System.

Improving incident investigation

In 2015, we implemented an incident investigation platform that we developed with a Canadian company, Intalex. This platform embraces and facilitates the corporate standard we introduced for incident investigation in 2014, which encompasses the best practices of the Health and Safety Executive's (HSE) Event and Causal Factor Analysis (ECFA) technique.

Initially, we have used the Intalex platform to log, investigate and share all incidents globally, but we have also customised its functionality to provide a tool for risk assessment of change management and document control. This web-entry-based platform has proved to be easy to use and search, and has enabled us to improve the efficiency and speed of reporting. In 2016, we will extend capability further to enable the capture of sustainability data such as greenhouse gas emissions, waste and water.

Promoting health and wellbeing

We have taken a decentralised approach to raising awareness and promoting health and wellbeing across our Business, as we recognise that these activities must be tailored to reflect local needs and cultures. Across the world, all of our operations have enabled us to meet our target in this area by establishing a range of initiatives, such as the promotion of exercise, access to free health assessments, offering advice on a range of health problems and encouraging a good work life balance.

The Future

In 2016, we will mandate and deploy our new Behavioural Safety Observation System globally. This will be the cornerstone of our occupational safety improvement drive over the next two years, and will require serious effort from all layers of the organisation. We have also realigned our LTI target to the Occupational Safety and Health Administration (OSHA).

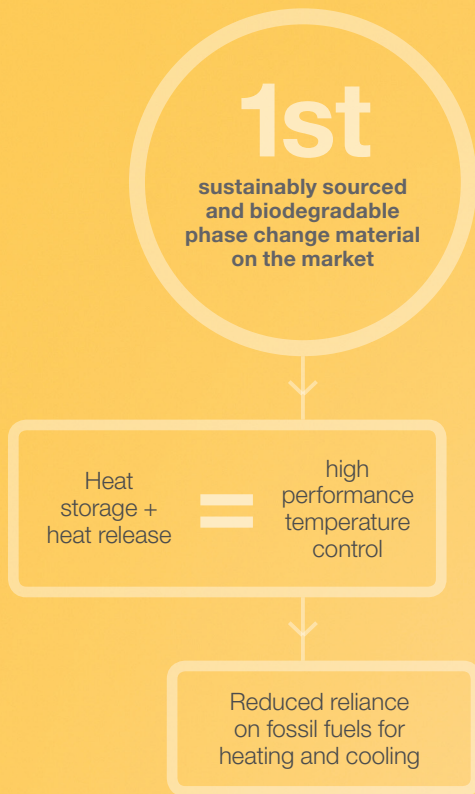
Committing to an additional new target for next year and beyond demonstrates our serious intent to improve performance within this Material Area: Implement a programme of Interaction Management training for line managers to enable clear communications with employees about safe behaviours by the end of 2017.

Best practice in incident investigation

At our Sipo site in China we have introduced a step-by-step approach to analysing 'what went wrong' that has resulted in a real improvement in incident investigation.

Meanwhile, at Leek in the UK we received a commendation from the HSE for the quality and rigour of the ECFA we completed when a steam manifold failed.





“Customers recognise the sustainability and performance benefits that CrodaTherm offers and this has given us the opportunity to pioneer our bio-based PCMs in a variety of applications.”

Raymond Goertz
Area Sales Manager

The market need

Heating, cooling or maintaining the ambient temperature of buildings or goods in transport has traditionally relied on fossil fuels to power ventilation systems. CrodaTherm PCMs replace this need. When temperatures rise beyond a certain point, they melt and absorb heat energy to deliver a cooling effect. When temperatures fall, they solidify, releasing the stored heat back into the environment.

The Croda solution

The CrodaTherm range has numerous melting-point temperatures lending to a variety of applications, including: controlling room temperatures when used in building materials; keeping athletes at the optimum temperature when used in textiles; and transporting organs and other temperature-sensitive shipments.



Our People

Create an environment where people can thrive



Our Highlights

91.2%

of our employees received training in 2015, totalling over 100,000 hours

30%

increase in graduate intake in 2015 compared to 2014

New

Learning Management System to provide all employees access to a comprehensive portfolio of learning and development resources

Our Targets

● Met ○ Ongoing ⓘ Developed ○ New

- Implement a global Learning Management System (LMS) to manage and enhance employee learning and development by the end of 2016
- ⓘ Ensure that all employees have a formal annual appraisal by the end of 2017
- ⓘ Conduct regular global employee engagement surveys, with the first taking place in 2016
- Review our Graduate Development Programme and internal requirements for our 2016 recruits
- Implement a global coaching programme for our senior leaders by the end of 2016 to enable them to develop future leaders
- Implement a structured development programme for our Specialists by end of 2016 to enhance their learning and progression

Our Approach

At Croda, we are proud of our unique culture, the roots of which lie in our people who are the key to our continual growth and success. We strive to attract, recruit, develop and retain the right people with the right skills, in the right roles at the right time. It is our shared vision that all of our people have the chance to work together in a stimulating and exciting environment, supported by leaders with the skills to develop other leaders.

Following engagement with the respective Global Market Sector Leadership Teams, during 2015 a number of structural changes were undertaken to strategically align Human Resources (HR) across the regions. This is in line with our ongoing aim to accelerate growth and drive performance in new and emerging markets. As a result of these changes, HR is now better placed to support business developments, both globally and locally, whilst maintaining our focus on:

- building our employee brand, Be Part of a Better Future, to attract the right people across existing and new markets, supporting our growth and culture of innovation; and
- building the capability of our people to support our Business needs, with clear accountabilities in order to unlock their potential.

2015 Performance

Attracting and retaining talent

To take the Business into the next phase of our growth in emerging markets, we continued to actively strengthen our talent pipeline by investing in innovative, dynamic and talented specialists and leaders through our multi-pronged approach. This has included leveraging our relationships with local and international institutions, as well as using social media platforms and career fairs to attract the right people into our Company. It has also meant developing our own internal talent, recruiting industry experts and increasing our focus on the performers of tomorrow, who are our graduate trainees, apprentices and interns, where we place a particular emphasis on those with technical and research and development skills.

Our Graduate Development Programme (GDP) has enjoyed considerable success in recent years, and in 2015 we recruited 30 graduates around the world compared to 23 the previous year. Over a period of two years, our graduate trainees move to experience various job roles across different business functions. They also receive personal mentoring to help them get the most out of the programme.

"I joined the Graduate Development Programme (GDP) in 2014 and I am currently with the Product Safety Regulatory Affairs team on my final rotation. From creating formulations with the application team, to ensuring product queries get answered timely and accurately, and assisting with marketing activities, the GDP has allowed me to experience the Business from different perspectives. I am thankful for the opportunities and flexibility that the GDP has provided, as well as the tremendous support from my managers and colleagues."

Shi Qi Ong
Graduate Trainee,
Singapore



Retaining talent is just as crucial as attracting talent, particularly with the high costs of recruiting and developing new people. To keep those working for us and thus preventing the loss of knowledge, it is essential that we offer the right balance of career growth opportunities, recognition and reward and work satisfaction. An essential part of this has been to ensure that all our employees benefit from a positive work environment that values the performance of individuals and teams, encourages mutual respect and facilitates effective communication.

We maintain an open door practice that gives our people multiple avenues for expressing and ensuring the resolution of any issues, and we ensure that employees receive regular performance appraisals and career development reviews through our global employee appraisal framework, Croda Aspire. Our corporate target for all employees to receive an annual appraisal by the end of 2015 has proved challenging over the past few years, but we are very pleased to report that 81.2% of employees received an appraisal by the end of 2015, demonstrating a substantial increase from our baseline year of 2012. We are committed to achieving 100%, so have extended this target and hope to achieve it by the end of 2017.

Widening our reach and strengthening our brand

Last year, we launched a global recruitment system that means we no longer have to rely on local agencies and websites to publish our vacancies.

This allows us to present our brand, Be Part of a Better Future, consistently across the world and strengthen our profile as a global employer of repute. We also began the process of translating our HR and recruitment web pages into local languages and adapting them to connect with different cultures, which will allow us to reach even more of the talented individuals, particularly in emerging markets, that our future growth depends upon.

We also align rewards to our strategic priorities and organisation structure, enabling all employees to share in the company success. This is partly through our employee share schemes, which have excellent membership globally.

80.9%

UK membership of our share schemes in 2015

51.0%

Non-UK membership of our share schemes in 2015

Due to further regional reorganisation in 2015, the planned employee engagement survey was not conducted. However, the commitment to conduct regular engagement surveys across our Business still stands and we hope to progress this in 2016.

Managing and developing talent

Developing and growing our own talent is integral to our business strategy and we offer a wide range of learning and development opportunities. These focus on work experience and knowledge sharing, feedback through performance management, networking, mentoring and coaching and targeted training. All of this delivers mutual benefits: our people develop personally and professionally to fulfil their career potential; and we build the skills, motivation and commitment we need to continually improve the performance of our Business.

91.2%

of our employees received training in 2015, totalling over 100,000 hours

Last year, our Learning and Development Specialists continued to offer various programmes, including the Graduate Development Programme, the 2020 Network and the Leadership Development Programme, which cater to the training needs of our employees at all levels of the Business. They also met our commitment to launch a new Learning Management System (LMS), which will increase learning accessibility substantially.

Launching a new Learning Management System

In order to increase the provision of training and development resources to our employees in a 'blended learning' way, a new Learning Management System (LMS) was successfully launched this year and a full global roll-out is scheduled in early 2016.

The LMS provides all employees across the world with straightforward access to a comprehensive portfolio of learning and development resources, particularly with the implementation of e-learning packages that are going to be developed in-house.

As it becomes the central platform for accessing all learning resources globally, it will include training packages developed by many business functions, for example Marketing, Sales, and Information Technology, as well as regional functions.

We continued to identify individual development requirements through our annual talent review process, which highlights immediate, medium term and longer term training needs. In 2015, 1,645 employees were reviewed as part of this process. We have also invested in training our managers to ensure that they have the coaching and mentoring skills necessary to support their team members' effective career progression.



The global focus, quantity and quality of our training and development has increased significantly over the past five years as talent management and succession planning have become strategic objectives for the Business.”

Nigel Fenwick Head of Global Talent & People Development at Croda

Investing in the leaders of tomorrow

At Croda, we continuously look to strengthen our leadership team, identifying high potential talent as part of our regular succession planning process. Talent management decisions are driven by a set of organisational core competencies as well as competencies that are role specific. We revamp our leadership programmes year-on-year to ensure continuous learning and sharing. Our aim is to build an effective global pipeline for fast tracking those with leadership potential and to provide them with the development they need to maximise their contribution to our performance and to enjoy the career progression that will retain them as part of our team. Two of those leadership programmes are the 2020 Network and the Leadership Development Group.

“I am given an abundance of opportunities to expand my capabilities and I know that my potential has been highly valued. I have the opportunity to network and build new relationships within the organisation through programmes like the 2020 Network and Operations’ Best Practice Forum. These programmes and forums not only give me the opportunity to interact and learn from people all around the organisation, but also give me greater understanding of my personal development goals and achievements.”

Harto Basuki
Operations Manager,
Croda Indonesia
and member of the
2020 Network



“I started my journey in the Business as a Plant Engineer in 1995 and have moved through various roles in operations and supply chain. I subsequently got the opportunity to head the Business in India and now have a regional operations and supply chain role. I have learnt the importance of focusing on the customer, innovation and operating to high standards. When I look back, I am reminded of the learning, the freedom, the support and the fantastic team that continues to make my journey with the Business so enjoyable. I am also reminded of the importance of a good work culture, as well as motivated and committed people who will continue to be at the heart of our efforts in adding value to our customers and in creating a successful business.”

Rupark Sarswat
Managing Director, Regional
Operations (Shiga, Cikarang
and Thane) and member
of the Leadership
Development Group



The Future

Our ambition is to build our global profile even further as a respected employer that talented individuals want to work for and be associated with. This means continuing to invest in an environment where our people benefit from open communication, and where they have the opportunity and support to develop their skills in order to contribute fully to our success.

Ensuring effective leadership is crucial to our future growth, so next year we will look to implement a global coaching programme for our senior leaders. In addition, we are investing in several initiatives to develop and engage employees as either Technical Experts or Specialists. A major part of this will be to formulate a structured specialist development programme to enhance learning and progression.

We remain committed to developing our employees at all levels and appraising every individual annually through Croda Aspire, so that their development needs, opportunities and ambitions can be identified and acted upon.

Award winning employers

During the year, we received numerous awards in recognition of the way we do business. Some of these included:

- Voted Britain’s 8th most admired company by our peers, and 1st in the innovation segment and 2nd in the chemical sector category
- Awarded top Graduate Employer for the Science and R&D Sector by The Job Crowd for our European Graduate Programme
- Ranked number 15 in the Top 100 Graduate Employers for smaller intake companies.



Knowledge Management

Safeguard our knowledge and expertise

Our Highlights

Top 5

most important employee performance competencies now includes knowledge sharing

Launch

of internal networking tool, Yammer

Our Targets ● Met ○ New

- Establish knowledge sharing as a core competency across the Group and develop practices that facilitate the capture and transfer of such expertise by the end of 2015
- Develop a suite of best practice processes and training to enable better retention of knowledge within the Business by the end of 2017

Our Approach

This year we have changed the name of this Material Area from Corporate Knowledge to Knowledge Management. This new title better reflects the fact that we focus on tools and processes to manage the knowledge of our people across the Business. What they know, their innovative approaches and valued expertise is what differentiates us from our competitors. It is also the foundation of everything we do: from how we create groundbreaking innovations, to the way we support our customers and how we run consistent quality processes globally.

In a world where global drivers (p03) mean that our employees are increasingly mobile and the pace of change and innovation seems to be ever increasing, and alongside the growing complexities of our Business as we continue to increase our global footprint, we work hard to protect and capitalise on our people's knowledge through our three-point strategy:

1. **Knowledge capture:** Through our recruitment strategies and acquisitions, we aim to learn and grow in new areas
2. **Knowledge retention:** We look to recognise and reward employees with expertise, thereby helping to keep them and their knowledge in the Business. We also use systems and procedures to protect knowledge as people retire or choose to work elsewhere

3. **Knowledge sharing:** Much of what we know is in our people's minds or our processes. To ensure that we keep delivering outstanding service and innovation, all of our people need easy access to the insights and learning of our many specialists around the world.

2015 Performance

Knowledge sharing

Last year we stated our intention to drive a shift in culture that puts knowledge sharing at the heart of our business mindset. This year we have made great strides to put and keep knowledge sharing on the agenda, enabling and empowering individuals to learn from their colleagues and external experts, with the aim of generating added value from greater innovation and new market opportunities, thus ensuring business continuity.

In November 2014, via our 2020 Network employee development programme (p31), we introduced a new knowledge sharing competency within our global employee appraisal framework, Croda Aspire. During 2015, this has become one of the top five competencies used by managers around the world to set objectives and measure performance, demonstrating that they have recognised just how important it is to encourage knowledge sharing at every level of our Business.

"Knowledge sharing is a very valuable competence for us, because our business model is based on bringing innovation to our customers via consultative sales. When knowledge sharing, we can really speed up the rate of innovation we can provide to our customers."

Marco Carmini
Managing Director,
Croda Latin America



During 2015, the success of the knowledge sharing competency has formed the basis for developing complementary tools to create, capture and share knowledge through four projects:

1. **Finding people**
Simplifying our internal people databases to make knowledge, skills and experiences easier to find.
Without the right contact details it is impossible to connect people. To facilitate these connections and ensure that a single, up to date and accurate source of information about our people is readily available to everyone, we have initiated a new system that now requires everyone at every level of our Business to regularly update their details. This is already proving invaluable in making it easier to identify and access the right individuals and their knowledge



2. Quick connections

Highlighting areas of excellence within a given location and forging knowledge links throughout our global organisation.

In 2015, we created a database to quickly access useful information about all of our locations across the world. This freely accessible information, which colleagues can contribute to and update, has become a means of orientating new employees and fast tracking their active contribution to the Business. It also captures the tacit knowledge of onsite experts and facilitates the conversations that spreads specialist knowledge across the Business

3. Guest Speakers

Recognising internal and external experts and providing a platform for sharing their expertise more widely.

As well as welcoming more guest speakers into the Business, in 2015 we worked harder to capture and share the presentations of all expert knowledge through audio-visual means, so that it can be accessed anywhere in the world and held as a permanent reference

4. Sharing lessons learnt

Encouraging a positive process for teams or individuals to review their activities and projects to establish and share best practice.

During 2015, we focused additional efforts on how to connect people based on skills, experience or the know-how to answer a question or solve a problem. We rolled out Yammer (a Microsoft networking tool), which has now evolved as a means of connecting people, often in different locations, to discuss questions, lessons learnt and best practice.

"The best thing for me about joining Yammer is having a much wider group of people within the Business to ask when I encounter a problem. Having spent time in the past resolving technical difficulties on my own, it is a refreshing change to connect with a group of people with similar issues who I can consult with."

Kathryn Backhouse
Group IP, UK



In addition, we have developed a four-step Lessons Learnt toolkit to guide a team or individuals to reflect upon the performance of a specific project and identify what worked well or what could be done differently, so that the learnings can be captured for future projects.

Knowledge capture

As ever, the way we capture new knowledge to complement our expanding business is a firm focus of our recruitment strategy. This year, we have implemented a global recruitment system, allowing us to promote our vacancies worldwide for the first time rather than relying solely on local recruitment methods. In Asia and Brazil we have also tailored and translated our Human Resources (HR) information and recruitment website into local languages and to reflect local cultures. All of this has enabled us to present ourselves consistently around the world and to reach a wider audience, helping to ensure that we attract the right people and knowledge in the right locations.

Knowledge retention

To help prevent loss of vital knowledge as people leave our Business, during 2015 we focused our succession planning efforts on our two most senior tiers. As part of this, we have started to develop a mentoring programme that our Executive Board members will lead. We have also reinforced our frameworks for retirement handovers and, through the talent pipeline, begun a process of mitigating the risk of critical people leaving by identifying and involving potential successors.

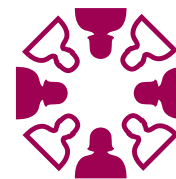
The Future

In 2016, we will continue to focus on our three-point strategy as a framework for maximising the value of the knowledge our people hold at every level of our Business. Specific projects will include extending the translation work carried out, particularly in recruitment, to encompass additional key languages in line with our global footprint.

We will also develop a suite of tools to enable us to better retain the knowledge that we need to deliver our business strategy by; developing a training programme for line managers to encourage knowledge retention; concentrating on up-skilling employees through job sharing and shadowing programmes; and sharing best practice more widely throughout the Business.

Diversity & Inclusion

Embrace and empower all individuals

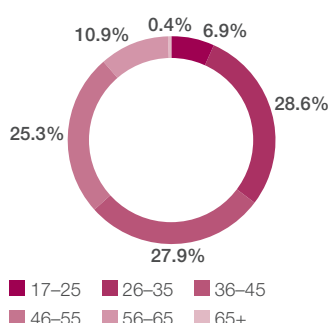


Our Highlights

67%  33% 
Gender split across the Group

82%  18% 
Gender split of senior management

Age of Employees (%)



Our Targets

 Developed

- ➊ Ensure that all locations have appropriate activities and policies to enable diversity in their workforce by the end of 2016

Our Approach

For us, Diversity & Inclusion is about supporting, valuing and respecting difference in our workforce, and ensuring that all of our employees feel empowered and included. It also focuses on creating a culture, at every level of our Business and in every location, of mutual respect for mutual benefit.

2015 Performance

In 2015, we focused on ensuring that all of our locations enabled diversity at every level of the Business. In September, Anita Frew succeeded Martin Flower as Chairman and will be a figurehead and inspiration for women across our Business. We continue to monitor the gender profile of our workforce, and in 2015 we have seen an improvement in the gender balance of our graduate training programme, particularly in North America where there is now a 50/50 balance.

Our expansion in emerging markets has led to a greater focus on ensuring that our people reflect the diversity of the locations where they are based. We have launched a recruitment system that allows us to promote our vacancies worldwide, and begun the process of translating our Human Resources and recruitment pages into local languages.

In addition, this year we have highlighted two initiatives to pilot during 2016 in North America, these are:

- ➔ Launching Employee Network Groups, for women or ethnic minorities for example, which will be voluntary and employee led. As well as fostering a diverse, inclusive workplace, these groups can also be a useful forum to support and share experiences
- ➔ Highlighting heritage months, with the dual aim of celebrating and educating our people on different cultures, thereby reinforcing the inclusion aspect of this Material Area.

Talent Programme in Mexico

In Mexico we were pleased and privileged to welcome 17 year old Diana Vanessa Martinez to the team in 2015. Diana joined us as part of the Adopt a Talent Programme, a non-profit organisation formed by leading teachers and scientists in the country. She is the first woman from a very poor community in the Chiapas Mountains to ever enter the world of education. She will be personally mentored by our Country Director and will attend university to fulfil her dream of becoming a scientist.

In other areas, we have been pleased to see that Croda SpeakUp, launched in 2014 to enhance our whistleblowing policy and procedure, has this year become part of everyday worklife. We have also widened the scope of our unconscious bias training by ensuring that it is part of our training curriculum. It has been actively rolled out in North America, with our other regions planning to do the same.

The Future

As we continue to work towards achieving our target: ensure that all locations have appropriate activities and policies to enable diversity in their workforce by the end of 2016, our activities during the year will be focused on establishing pilot programmes for our Employee Network Groups and heritage months. This work will be part of a major focus on strengthening our approach to, and performance in Diversity & Inclusion, building on the progress we have made since we introduced this Material Area in 2013.

Community Education & Involvement

Support the communities in which we operate, with a primary focus on encouraging young people to work within science and technology



Our Highlights

Launch

of a global network to connect employees delivering science education in schools

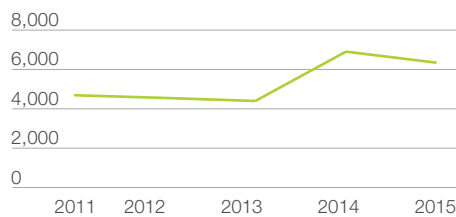
6,321

hours of employee time volunteered through our 1% Club community scheme

24.5%

of employee volunteering hours were used for educational initiatives in schools

Increase in 1% Club hours over the past five years



Our Targets ● Met

- Ensure that at least 5% of employees at all operations with a research and development centre or significant engineering team receive Education Ambassador training by the end of 2015

Our Approach

We add value to local communities around the world through educational initiatives and by encouraging employees to get involved in local good causes. This approach is how we establish the strong relationships that are essential to maintaining our social licence to operate: building trust and respect with local communities. It can also improve our employees' performance and sense of achievement, whilst helping us recruit new talent and ensuring that we have a positive influence around the world.

To support our local communities, we allow all of our employees to donate 1% of their working time through our employee volunteer scheme, the 1% Club. This volunteer work is focused on two areas:

- 1. Community education:** To raise the profile of science, technology, engineering and maths (STEM) by providing targeted support to schools, colleges and universities that are based primarily in areas where we operate. This helps us improve the learning and career prospects of local people, enhance our reputation and, by investing in our people who will deliver the programmes, we develop their skills for our future growth

- 2. Community involvement:** Through which we can respond both proactively and reactively to local needs and deliver tangible benefits, whether that is helping to clean the local environment, collecting donations that support the vulnerable, or volunteering time to support the activities of local charities.

Our work within the community continues to take a decentralised approach, as we recognise that activities need to be tailored to suit the needs and characteristics of the communities in the areas where we operate. We also focus on empowering and encouraging our own people to act on their own initiatives. As such, now that we have successfully completed all of the targets we set in 2013, we will no longer be setting global targets for this Material Area.

However, to continue our focus on community education, we will still support a central STEM team and a network of Education Ambassadors, who reach out globally to offer a wide range of practical experience to children of all ages.

2015 Performance

Community education

Across the world, in 2015 24.5% of community volunteering hours were donated to delivering education initiatives by almost 250 Education Ambassadors. Education Ambassadors are those employees who participate in delivering education initiatives, helping us foster long lasting relationships with schools, colleges and universities.

In 2015, we also completed our only remaining target for this Material Area: to ensure that at least 5% of employees at all operations with an research and development centre or significant engineering team receive Education Ambassador training. We achieved this through the launch of a global network of Education Ambassadors, and examples of best practice were gathered and presented back to the network through a series of online seminars. Over 100 employees globally have taken part in this training since 2013, helping to strengthen the value we can deliver to local schools, whilst improving our employees' sense of achievement through recognition.



Our support for STEM education takes in all of the learning stages and aims to inspire and build the innovators and scientists of the future. We are very pleased that, from across our Business, we can demonstrate our commitment to engaging young people at every stage of their education. Some notable examples of excellent work completed by our Ambassadors throughout 2015 include:

Reaching teens in the UK

Adeline Coulson, Lead Applications Scientist, and Sam Alexander, Applications Scientist, UK

Both Adeline and Sam are based at Cowick Hall in the UK and recently participated in a Teen Tech event that took place at a local football stadium. Adeline said: "It was a great opportunity to showcase how a scientific degree could lead into the Personal Care industry and to also highlight that this career is suitable for both males and females." Over 300 students aged 12-13 from schools throughout the East Yorkshire region attended the event, with 30 companies participating.

Environmental lessons in China

Mandy Wang, Technical Services Executive, China

For the past two years, Mandy has used her 1% Club time to deliver science classes to students, donating hours to designing experiments, preparing the lessons and delivering them to over 130 students in the Sichuan Province. She taught the students about the impact of carbon dioxide on the environment and showed them how to save energy and reduce emissions. Feedback was really positive from both teachers and the children who said such activities help to stimulate their interest in chemistry by 'bringing it to life'.

Making bubbles in Argentina

Gabriel Amato, Account Manager, Argentina

As part of the 1% Club, Gabriel devoted 18 hours of his work time to various activities, including delivering a science lesson to 35 eight year olds. They enjoyed playing with different soap bubbles, creating a hand cream and even modifying a polymer.

Community involvement

Our volunteering work continues to allow our people to use 1% of their annual working time to support a wide range of local good causes. During the year, our people volunteered for a total of 6,321 hours, equivalent to around £110,000 of in-kind donations. However, we know that this is the tip of the iceberg, with many of our employees dedicating their personal time to fundraising and volunteering, which is not recorded within the Business.

We are also seeing more of our 1% Club activities carried out in partnership with our customers, as we are increasingly aligned on the shared goal of a better, more sustainable world. For example, in 2015 our team in Columbia joined up with one of its main hair care customers, Marcel France, to spend a morning at the Casa Violeta Foundation giving hair and beauty treatments to women who have been victims of violence.

Our employees at every level of the Business and in all of our regions participate in the 1% Club, here are just some of the great examples of community work in 2015:

"We're a small team in Australia, but in 2015 we've worked hard to donate time to 1% Club by volunteering at food banks, fundraising in the community and visiting local schools. I believe the 1% Club makes a difference in the community and our employees really value it."

Raquel Mirabent
Country Manager,
Croda Australia



"I'm part of the team of employees that supports the Association of Parents and Friends of Children suffering from Down Syndrome. We held two really enjoyable events with them this year: a school theatre to learn about respecting the environment during Global Water Day and a party to learn about good food habits."

Marco Carmini
Managing Director,
Croda Latin America



"I'm the Secretary of the N.U.R.S.E Charity, which has been tireless in their efforts to raise money to help buy much needed equipment for Hull Royal Infirmary this year. We were able to donate £10,000 to support the purchase of a portable ultrasound machine for use by the Vascular Laboratory at the hospital."

Wendy Tattam
Administration
Coordinator, UK



The Future

Going forward, whilst we continue to decentralise our activities in this Material Area, we'll maintain our high global standards, better reflect local needs and differences and ensure that those involved gain the maximum value out of every project they are engaged in.

We will continue to report progress and monitor KPIs around performance, as we hope to encourage more of our people than ever, at every level of our Business, to get involved in our 1% Club activities, especially through our work with educational institutions.

Delivering Sustainability

Our management and governance

A dedicated senior management team is at the heart of sustainability, leading and driving our environmental and social agenda. They are supported by a large, diverse network of people who are directly involved in developing and implementing our sustainability programme, which is delivered at and by all levels of the Business.

Delivering sustainability at every level of our Business

Our two most senior decision making bodies, the Board of Directors and Group Executive Committee, govern and are ultimately responsible for our economic, environmental and social performance. As such, they play an active role in ensuring that sustainability remains an integral element of our business strategy.

However, responsibility for shaping and delivering our sustainability programme does not just lie with our leaders, but reaches right across our Business. Each and every one of our employees has a role to play in our sustainability activities; we are truly all responsible.

Our Vice President (VP) of Sustainability, who reports to our Group Chief Executive and President of Operations, manages our Global Sustainability Team and chairs our Sustainability Steering Committee, with the support of an Executive Sponsor.

A group of nine experts from specific areas of the Business sit on the Committee as Material Area Owners, representing our business functions and the external stakeholder groups with whom they are most closely linked. Four Regional Representatives also sit on the Sustainability

Steering Committee who, with the support of their own Regional Steering Committees, play a 360° role: cascading details of our activities globally, representing the needs of their regions and reporting back on the delivery of our programme.

Reporting progress

We have 48 reporting operations covering the whole Business, each with a Sustainability Champion who reports progress against our targets and a set of key performance indicators (KPIs). Along with details from our Material Area Owners, this information is communicated to the Group Executive Committee on a quarterly basis. All members of this committee take part in an annual Sustainability Conference where our full sustainability programme is reviewed with the Global Sustainability Steering Committee. The Board of Directors also receives quarterly summary reports, and a number of bespoke presentations on key sustainability topics throughout the year, as it is an integral part of their agenda alongside our other corporate functions, which include Safety, Health, Environment and Quality, Human Resources, Legal, Information Technology, Finance and Treasury and Intellectual Property. This approach

ensures that our sustainability programme feeds into our wider Business strategy and keeps sustainability at the forefront of our business thinking.



We have maintained our position as an industry leader in sustainability by delivering on our commitments and investing in the future."

Anita Frew
Chairman



The primary aim of the Global Sustainability Steering Committee, working with the Board of Directors and Group Executive Committee, is to establish clear objectives and performance targets aligned to global drivers through our Material Areas.

Senior Management

Board of Directors

Group Executive Committee

Global Sustainability Steering Committee

VP of Sustainability

Executive Sponsor

Global Sustainability Team

Materiality Owners

Regional Representatives

Regional Steering Committee

Asia Pacific
Steering Committee

Latin America
Steering Committee

Europe
Steering Committee

North America
Steering Committee

Site Level Support

Sustainability Champions

Quarterly
performance
reporting

Quarterly
360°
reporting

GRI Content Index

Global Reporting Initiative

During 2015 a review of the GRI G4 General Disclosures and Standard Disclosures was conducted. As a result, we report to a self-declared 'Core' accordance level for the period 1 January 2015 to 31 December 2015, reporting only disclosures that are of most importance to our Business.

The Content Index below shows where information against our chosen GRI disclosures can be found in this report, and a complete GRI report can be viewed online at www.croda.com/GRI.

General Standard Disclosures	Description	Sustainability Report page	Annual Report & Accounts page	More online
G4-1 – 2	Strategy and analysis	2, 3, 6, 7	1, 14-15, 23, 80	
G4-3 – 16	Organisational profile	Inside front cover 4-7, 9-13, 16, 21	1, 14-15, 23, 80	●
G4-17 – 23	Identified material aspect and boundaries	Inside front cover 3, 6-7	136-137	●
G4-24 – 27	Stakeholder engagement	6-7		●
G4-28 – 33	Report profile	1		●
G4-34 – 52	Governance	37	36-74	●
G4-56 – 58	Ethics and integrity	34		●

Specific Standard Disclosures	Description	Omissions	Sustainability Report page	Annual Report & Accounts page	More online
Economic					
G4-EC1	Direct economic value generated and distributed			4-29, 86-90	●
G4-EC2	Financial implications and other risks and opportunities due to climate change	●	3, 19	30	
G4-EC3	Coverage of the organisations defined benefit plan obligations	●		104-108	
G4-EC4	Significant financial assistance from government				●
G4-EC9	Proportion of spending on local suppliers at significant locations of operation				●

Environmental

G4-EN1	Materials used		10	23	●
G4-EN2	Percentage of materials used that are recycled input materials				●
G4-EN3	Energy consumption within the organisation		20	30	
G4-EN5	Energy intensity			30	●
G4-EN6	Reduction of energy consumption		20		●
G4-EN8	Total water withdrawal by source		22	30	●
G4-EN11	Land in or near protected areas or areas of high biodiversity				●
G4-EN12	Significant impacts on biodiversity				●
G4-EN15	Direct greenhouse gas emissions (scope 1)		19-20	30	
G4-EN16	Energy indirect greenhouse gas emissions (scope 2)		19-20	30	
G4-EN17	Other indirect greenhouse gas emissions (scope 3)		21		●
G4-EN18	Greenhouse gas (GHG) emissions intensity			30	●
G4-EN19	Reduction of GHG emissions		19-20	30	
G4-EN21	NO _x , SO _x and other air emissions				●
G4-EN22	Total water discharge				●

Specific Standard Disclosures	Description	Omissions	Sustainability Report page	Annual Report & Accounts page	More online
G4-EN23	Total weight of waste		22		●
G4-EN24	Significant spills				●
G4-EN29	Monetary value of significant fines				●

Labour Practices and Decent Work: Social

G4-LA1	Employee hires and turnover		Inside front cover		●
G4-LA3	Return to work and retention rates after parental leave, by gender				●
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements				●
G4-LA5	Percentage of workforce represented in health and safety committees				●
G4-LA6	Rates of injury and illness and number of work related fatalities		25	30	●
G4-LA9	Training per year per employee	●	30	3	
G4-LA10	Programmes for skills management and lifelong learning	●	30	3	
G4-LA11	Employees receiving regular reviews by gender and employee category		30		●
G4-LA12	Percentage breakdowns of employees according to diversity groups		34	3	●

Human Rights: Social

G4-HR4	Operations in which the right to exercise freedom of association or collective bargaining may be at risk				●
G4-HR5	Operations at risk of incidents of child labour				●
G4-HR6	Operations at risk of forced or compulsory labour				●

Society: Social

G4-SO1	Percentage of operations with implemented local community engagement, impact assessments and development programmes		35-37	3	
G4-SO3	Business units analysed for corruption risks	●			●
G4-SO4	Employees trained in anti-corruption policies and procedures				●
G4-SO6	Total value of political contributions by country and recipient/beneficiary				●

Product Responsibility: Social

GR-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement				●
GR-PR2	Non-compliance with regulations and codes for health and safety of products	●			●
GR-PR3	Information required by procedures				●
GR-PR4	Non-compliance for information and labelling				●
GR-PR6	Sale of banned or disputed products				●
GR-PR7	Non-compliance to marketing communications laws and standards				●
GR-PR8	Substantiated complaints for breaches of customer privacy or data loss				●
GR-PR9	Monetary value of fines for regulatory non-compliance				●

Glossary

The following abbreviations are used in this report:

%	Percent	kg	Kilogram
°C	Degrees Celsius	KPI	Key Performance Indicator
°F	Degrees Fahrenheit	LMS	Learning Management System
AEO	Authorised Economic Operator	LOPA	Layers of protection analysis
AO	Alkoxylation	LTI	Lost time injury
ARA	Annual Report and Accounts	m³	Cubic metre
Bn	Billion	MW	Megawatt
BoS	Basis of Safety	NGO	Non-governmental organisation
CDP	Formerly 'Carbon Disclosure Project'	NSAPI	National Skills Academy for the Process Industries
CEN	European Committee for Standardisation	OHSA	Occupational Health and Safety Act
CHP	Combined Heat and Power	OHSAS	Occupational Health and Safety Advisory Services
CIA	Chemical Industry Association	PCM	Phase change material
CO₂	Carbon Dioxide	PDCA	Plan-Do-Check-Act
COP21	Paris climate conference	PKO	Palm Kernel Oil
CSPO	Certified Sustainable Palm Oil	PO	Palm Oil
ECFA	Event and Causal Factor Analysis	PRA	Process Risk Assessment
EEMEA	Eastern Europe, Middle East and Africa	PRR	Process Risk Review
EFfCI	European Federation for Cosmetic Ingredients	PSM	Process Safety Management
EO	Ethylene Oxide	PSRA	Product Safety and Regulatory Affairs
ETP	Effluent Treatment Plant	QA	Quality Assurance
EXCiPACT	Certification scheme for pharmaceutical excipient suppliers	R&D	Research and Development
GDP	Graduate Development Programme	R&T	Research and Technology
GHG	Greenhouse Gas	RSPO	Roundtable on Sustainable Palm Oil
GJ	Gigajoule	SAP	Software reporting system
GMP	Good Manufacturing Practice	SCC	Supply chain certification
GRI	Global Reporting Initiative	SHEQ	Safety, Health, Environment and Quality
HERO	High Erucic Rape Oil	STEM	Science, Technology, Engineering and Mathematics
HR	Human Resources	Te	Tonne
HSE	Health and Safety Executive	Te CO₂e	Tonne carbon dioxide equivalent
HSL	Hazard Study Leaders	™	Trademark
IP	Intellectual property	UK	United Kingdom
IRB	Istituto Di Ricerche Biotecnologiche	UV	Ultraviolet
ISO	International Organisation for Standardisation	VOC	Volatile Organic Compound
		VP	Vice President

Cautionary Statement

The information in this publication is believed to be accurate at the date of its publication and is given in good faith but no representation or warranty as to its completeness or accuracy is made. Suggestions in this publication are merely opinions. Some statements and in particular forward-looking statements, by their nature, involve risks and uncertainties because they relate to events and depend on circumstances that will or may occur in the future and actual results may differ from those expressed in such statements as they depend on a variety of factors outside the control of Croda International Plc. No part of this publication should be treated as an invitation or inducement to invest in the shares of Croda International Plc and should not be relied upon when making investment decisions.

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