

Smart science to improve lives™



Climate



Land



People



Fundamentals



CRODA

Sustainability Report 2020

Contents

Smart science to improve lives™

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Croda employees who feature on our front cover

Climate Positive: Developing our decarbonisation roadmaps (top to bottom): Kim Carmichael, Process Innovation Manager; Mandy Elrayah, Graduate Trainee; Rachel Scullion, Research Scientist and Steven Brewer, Process Innovation Specialist.

Land Positive: Barry Hoff, Research Scientist, Incotec in the 'climate room', which can be adapted to mimic different climates to see how seeds react.

Fundamentals: Delphine Gely, Marketing Manager, Crodarom (standing) with one of Crodarom's local suppliers.

Some photography used within this report was taken prior to the COVID-19 pandemic.

Highlights

Sales

£1,390.3m

2019: £1,377.7m

Core Business sales growth (constant currency)

+2.3%

2019: -2.3%

IFRS profit before tax (PBT)

£269.5m

2019: £302.3m

Adjusted PBT growth (constant currency)

-4.8%

2019: -3.7%

Ordinary dividend (proposed full year)

+1.1%

2019: +3.4%

Energy from non-fossil fuels

25.0%

Rebased 2019: 22.7%

Organic raw materials from bio-based sources

67%

2019: 63%

Safety (Total Recordable Injury Rate*)

0.54

2019: 0.55

Hectares of land saved over our 2019 baseline

16,455

2019: Baseline year

* excluding acquisitions and COVID-19.

Our approach

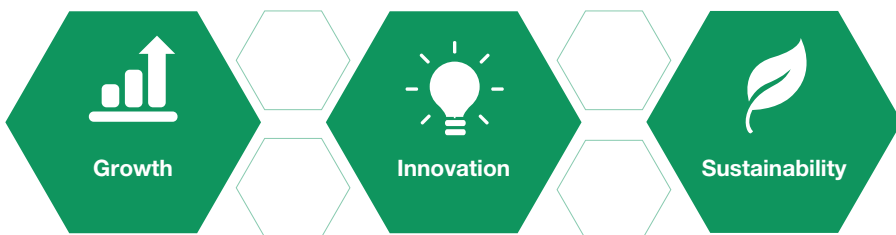
We use smart science to create high performance ingredients and technologies that improve lives.

Smart science

At Croda our Purpose is to use Smart science to improve lives™, enabled by our distinctive values-led culture that governs how we work with one another and guides our relationships with all of our partners. We combine our knowledge, passion and entrepreneurial spirit to create, make and sell speciality ingredients that are relied on by industries and consumers everywhere.

Through our strategy

Our corporate strategy sets out the high-level themes that will help us to deliver our Purpose. A focus on growth, innovation and sustainability means that our smart science can help our customers to deliver both their consumer and sustainability commitments, while we achieve our own, creating sustainable value for our shareholders.



Consistent top and bottom-line growth, with profit growing ahead of sales, ahead of volume.

The lifeblood of our business, we seek to increase the proportion of NPP (New & Protected Products) that we sell.

Aligning our business with our Purpose and accelerating our customers' transition to sustainable ingredients.

Through the markets we serve

Our market focus targets Consumer Care, Life Sciences and Performance Technologies as we look to extend the reach of our smart science to consumers everywhere. From sun protection to pharmaceuticals, crop and battery technologies, these markets touch our lives every day.



Our smart science is helping our customers, large and small, to create formulations for thousands of personal care and home care products that improve the environmental profile of their products while delivering clear benefits to consumers.

We reach customers worldwide with our ingredients to deliver health care solutions, protect crops and enhance seeds. From our vaccine technologies to microplastic-free seed coatings, we are using our smart science to improve lives everywhere.

Our innovative, low-carbon, sustainable and technology-rich additives and materials enable the transition of industrial markets to new sustainability-driven solutions. We work with our customers to help them to deliver superior performance, lower carbon, and greater circularity in materials, mobility, energy, and water industries.

Consumer Care

From 1 January 2021, Personal Care, Home Care and Iberchem were combined to create our new Consumer Care sector.

* Reported as Personal Care for 2020.

Delivered by our shared values

Our distinctive values-led culture governs how we work and guides our relationships with others. Our shared values of 'Responsible', 'Innovative' and 'Together' focus our work to ensure our smart science helps to improve lives.

to improve lives™

Croda was founded on the principle of using smart science to turn bio-based raw materials into innovative ingredients that help to improve lives. Our Commitment is to be Climate, Land and People Positive by 2030. Through this, and by being the most sustainable supplier of innovative ingredients, we will help provide solutions to some of the world's biggest challenges. The United Nations Sustainable Development Goals (SDGs) are the foundation of our approach.

Our priority SDGs



By 2030 we will be...

...Climate Positive

We will help our customers to avoid carbon emissions through the benefits in use of our innovative ingredients, whilst continually reducing our carbon footprint. We will increase our use of bio-based raw materials, which absorb carbon from the atmosphere. By combining these efforts, we will enable four times more carbon emissions to be avoided than we emit through our operations and supply chain.

➔ See page 12

...Land Positive

The use of our agrochemical technologies helps farmers to increase yields and improve crop resilience while protecting biodiversity. Our continual innovation will help customers to mitigate the impact of climate change and land degradation, increasing the availability of land suitable for growing crops. The use of our products will enable more land to be saved than is used to grow our bio-based raw materials.

➔ See page 18

...People Positive

We use our smart science to improve the lives of our own employees and people all around the world. We will contribute to SDG 3, developing ingredients to improve health and wellbeing, provide access to our smart science through our Foundation, and encourage and promote diversity within our organisation. We will continue to innovate to increase our positive impact on society.

➔ See page 22

At Croda, we have made it our Purpose to use our Smart science to improve lives™. This has been a tough year for everyone, but this clarity of Purpose has been our guide, ensuring our commitment to our customers and to one another. We have kept our people safe, while maintaining supplies for our customers and delivering key components for the world's first approved COVID-19 vaccine.

This year, more than ever, we felt the value of working closely with partners and supporting every one of the stakeholders in our ecosystem. Our continued success and positive impact on the world is driven by the strength of these relationships with others.

Group Chief Executive's statement

Through our actions, we aim to live up to our Purpose of using Smart science to improve lives™.



Steve Foots
Group Chief Executive



We end 2020 with even greater optimism and confidence and, above all, collective pride in our business, our Purpose and Commitment to continue to make a positive impact.”

We began 2020 with our usual optimism and confidence, not anticipating the events that were about to unfold and touch every one of us. It quickly became clear how the COVID-19 pandemic was rapidly going to change our lives and challenge many aspects of day-to-day business.

Confidence in our Purpose

2020 has exemplified the resilience of our business model as well as confidence in, and commitment to, our Purpose.

Our priorities have been to protect the health and safety of our employees and balance the needs of all our stakeholders fairly. We have not furloughed employees, reduced pay or utilised government liquidity facilities. All but two of our 19 principal manufacturing

sites operated without material disruption throughout the pandemic and raw material supply chains remained secure. We have supported our customers and suppliers, given financial assistance to the communities close to our sites, and maintained our track record of paying regular dividends to shareholders. Through our actions, we aim to live up to our Purpose of using Smart science to improve lives™.

Confidence in our people

Our people and our culture truly define our sustainability. Throughout the year I saw, first-hand, the resilience and commitment of all our colleagues working from home and the continued engagement with customers and suppliers. Our global research and development (R&D) network adapted to changing working conditions to maintain our ongoing research and innovation. I would like to pay tribute to all our colleagues in operations maintaining our production and ensuring continued supply of the thousands of ingredients to all the industries we serve. We prioritised manufacture and supply of our ingredients into the many supply chains that contribute to combating COVID-19, from sanitisers to PPE and, crucially, our supply of novel excipients used in the manufacture of the Pfizer-BioNTech COVID-19 vaccine, playing a critical role in solving the biggest health emergency facing society today.

Reinforcing confidence in our Commitment

2020 has reinforced our Commitment to be the most sustainable supplier of innovative ingredients; to create, make and sell solutions to tackle some of the biggest challenges the world is facing.

I am very proud of Croda's involvement in the battle to fight the most significant pandemic that we have seen in a generation. The application of our innovative capabilities is testament to the strong progress we have made towards creating industry-leading drug delivery systems, focused on developing speciality excipients and adjuvants to improve the effectiveness and stability of complex drug actives and vaccines. It is another example of why our Purpose, Smart science to improve lives™, sits at the heart of our strategy and will continue to drive our priorities and ambitions in the years ahead.

In setting out our 2030 ambition to be Climate, Land and People Positive we now publish interim goals against which we shall measure progress in our Company-wide commitment in delivering positive impact.

Confidence in our sustainable future

Our acquisition of Avanti Polar Lipids, Inc. around whose expertise we have built our contribution to the Pfizer-BioNTech COVID-19 vaccine, confirms our commitments to health and wellbeing and building a broad drug delivery business on a global scale.

Acquiring Iberchem, a global Fragrances and Flavours business significantly broadens and strengthens our footprint in Consumer Care and importantly aligns with our Purpose, taking us into new areas and opportunities where we can use smart science to improve peoples' lives.

We end 2020 with even greater optimism and confidence and, above all, collective pride in our business, our Purpose and Commitment to continue to make a positive impact.





I would like to thank everyone across the Group for their ambition and commitment to leadership in sustainability.

Steve Foots
Group Chief Executive

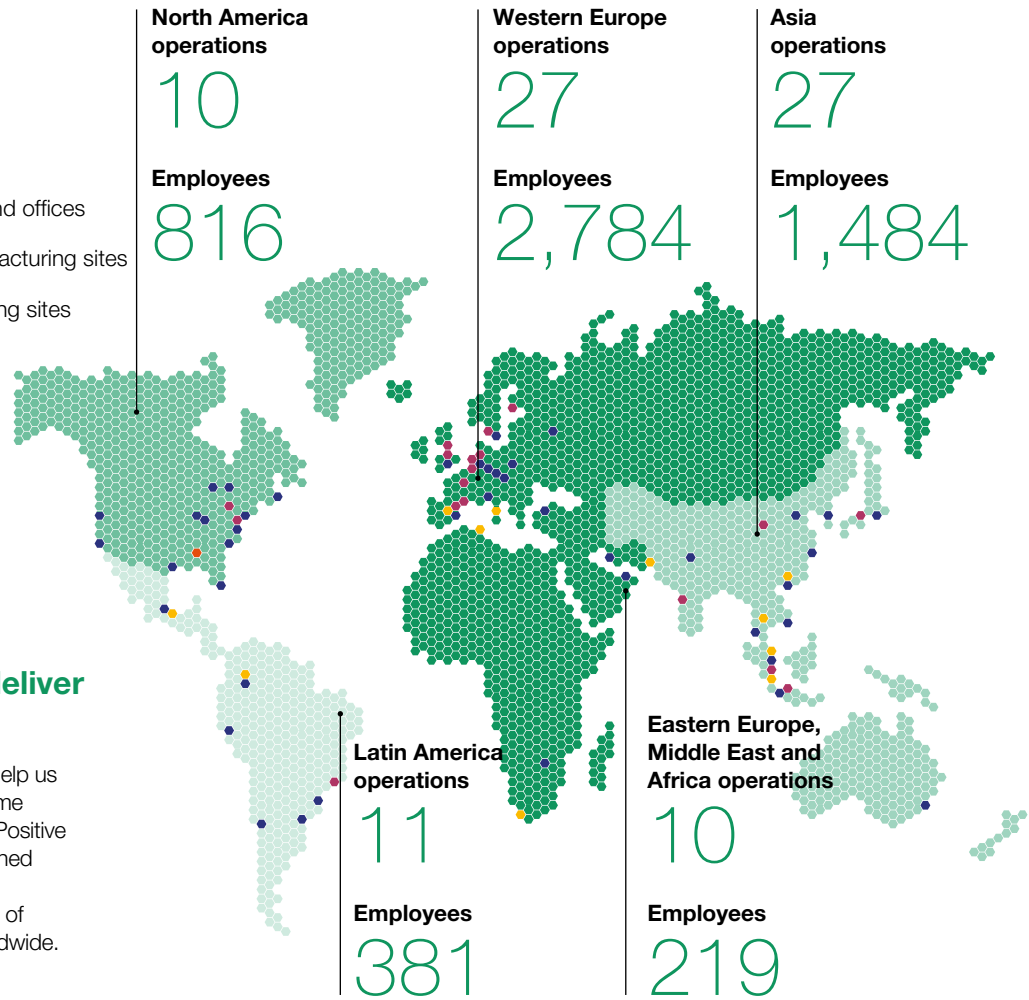
At a glance

Every day our global team of over 5,600 employees, across 37 countries, work together to inspire and influence each other and our customers.

Key

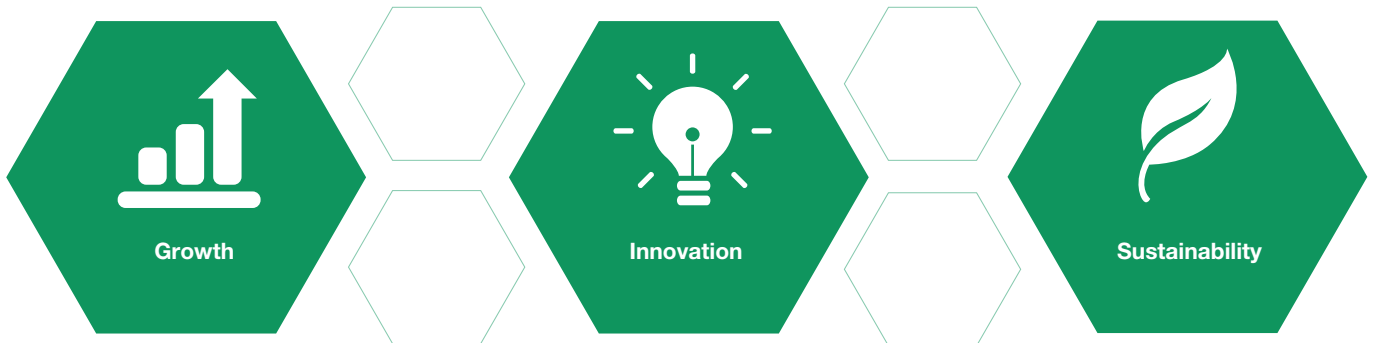
-  Croda R&D centres and offices
-  Croda principal manufacturing sites
-  Iberchem manufacturing sites
-  Avanti location

Note: some hexagons may represent multiple site locations. Operation and employee numbers include Iberchem and Avanti.



Our strategy to deliver strong growth

Our business strategy will help us meet our ambition to become Climate, Land and People Positive by 2030. This long-established strategy delivers value for shareholders, even in years of challenge and change worldwide.



Consistent top and bottom-line growth, with profit growing ahead of sales, ahead of volume.

We achieve this through:

- Sharing a clear Purpose
- Applying a strong and resilient business model
- Using our unrivalled local, direct and digital selling
- Creating a balanced global manufacturing footprint
- Following a proactive and targeted M&A programme, investing in high-return opportunities
- Applying a disciplined approach to capital allocation

The lifeblood of our business, we seek to increase the proportion of NPP (New & Protected Products) that we sell.

We achieve this through:

- Investing in our own R&D application and regional innovation centres
- Working closely with customers to better understand their needs
- Identifying disruptive technologies
- Working with Open Innovation Partners

Aligning our business with our Purpose and accelerating our customers' transition to sustainable ingredients.

We achieve this through:

- Creating ingredients that provide a benefit in use with reduced environmental impact
- Aligning our business with the United Nations Sustainable Development Goals
- Identifying the short, medium, and long-term time horizons and specific climate-related risks and opportunities which could have a material financial impact on us

Business model

Sustainability is integrated into every element of our business model, creating long-term sustainable value by engaging with customers, creating, making and selling speciality ingredients in line with our Purpose, Smart science to improve lives™.

Smart science to improve lives™

Our value chain

Consumer demand

Climate change, biodiversity loss, widening inequality and changing demographics are transforming consumer demands for transparency.

Customer needs

Increasingly, customers seek innovative ingredients that contribute to their own sustainability strategies and goals, whilst enhancing their brand equity.

Engage

We work closely with customers and suppliers, seeking partnerships that deliver positive impact and increase the integrity in supply chains.

Create

We create sustainable and innovative ingredients that positively contribute to the United Nations Sustainable Development Goals and help tackle some of the world's biggest challenges.

Make

We use resources in a responsible and safe manner and drive continual improvement in everything we do.

Sell

Our direct selling model facilitates intimate contact with customers and the opportunity to work in partnership with them on a shared sustainability agenda.

Customer product

Customers use our innovative ingredients to deliver sustainability benefits to their products and meet their consumers' needs.

Consumer benefit

Through our customers' products, our ingredients improve consumers' lives by addressing their needs in sustainable ways.

Our sustainable business model

Megatrends

Of the megatrends which will drive growth across Croda, three common themes are sustainability, emerging markets and digital.

Sustainability

COVID-19 has been the focus of 2020, but tackling the other crises facing the planet remains urgent: climate change, conserving natural resources, loss of biodiversity and social inequality.

The United Nations (UN) Sustainable Development Goals (SDGs) tackle all these interlinked issues and were designed as a blueprint to achieve a better and more sustainable future for all. More importantly today, the goals provide a critical framework for COVID-19 recovery.¹

The SDGs cannot be addressed without business. It is becoming widely acknowledged that businesses must serve the interests of all stakeholders, and in doing so they will make an important contribution to tackling global challenges during this critical Decade of Action.

Sustainability makes good commercial sense. Consumers want products sourced from natural ingredients which make a positive contribution to the environment and local economies. They want to buy goods and services from purpose-driven companies. Growing regulation is also forcing businesses to be more sustainable to maintain compliance, which is driving innovation.

How we are responding

With our strong sense of Purpose, we are committed to serving the interests of all stakeholders.

We have used the SDGs as a practical framework to evaluate where we can make a meaningful contribution, and to provide a common language for discussions with customers and suppliers. Non-financial metrics are now monitored alongside financial ones and are linked to the UN's specific targets that sit below the SDGs. By 2030 we are committed to being the most sustainable supplier of innovative ingredients and to be Climate, Land and People Positive.

Sustainability underpins the way we think commercially and is the biggest driver of our strategy. We recognise that long-term value creation will be driven at the intersection of innovation and sustainability. We are supporting this strategy by investing in sustainability through acquisitions and partnerships as well as organic investment.

Climate Change

According to experts,² 2010-2019 was the hottest decade on record, average temperatures were 1% higher than the previous 10 years and are likely to be 4% higher by 2050. Extreme weather events are becoming more frequent and sea levels are rising. In 2015, the Paris Agreement was signed, with 197

countries agreeing to limit global temperature rises to no more than 2°C above pre-industrial levels. In 2018, the IPCC special report on climate change was released, providing evidence to show that global temperature rises need to be limited to no more than 1.5°C above pre-industrial levels, to avoid the most catastrophic effects of climate change.

“

There is no doubt that we will use carbon-based emissions as the final decision-making criteria ... as we typically would have done with the price, the quality, the reliability as factors that would have informed purchasing decisions. Carbon track record is becoming a real currency.”

Thomas Udesen

Chief Procurement Officer, Bayer, speaking at Croda's investor seminar on sustainability, 20 October 2020

Becoming Climate Positive

In 2019 we were an original signatory to the UNGC Business Ambition for 1.5°C, now a Race to Zero partner. We have committed to become a net zero organisation by 2050, and to set an interim science-based target aligned to limiting global warming to no more than 1.5°C above pre-industrial levels. We are increasing our use of bio-based raw materials, which sequester carbon from the atmosphere as they grow, and providing ingredients which through their use enable our customers to save carbon and reduce their emissions.

part of our Ingredient Transparency project and will soon make this available to our customers. In Create, we have applied artificial intelligence and data science to shorten product development life cycles and are investing in knowledge management so we can leverage our global R&D expertise. In Make, our global supply chain project went live during the year and several sites are exploring the use of digital tools to improve resource efficiency (p36). In Sell, our China website went live, and we continue to see strong growth in opportunities captured via our digital channels.

Emerging markets

Emerging economies present sustainability challenges since rapid mass urbanisation aimed at raising standards of living often poses threats to environmental and societal health. Growing consumption and an expanding middle class are increasing demand for consumer goods and health care in these countries, particularly for products that improve living standards. We believe there are no

“

Sustainability underpins the way we think commercially and is the biggest driver of our strategy.”

The loss of biodiversity

The world's population is predicted to reach 9.8 billion by 2050, requiring 50% more food. Human activity has already altered 75% of the earth's surface, and according to experts, around one million animal and plant species are now threatened with extinction.³

Becoming Land Positive

The use of our crop protection ingredients and seed treatment technologies will save more land than we use to grow our raw materials, increase agricultural land use efficiency, protect biodiversity, and ensure food security. Through sustainable sourcing we will play our part in eliminating deforestation. We have a commitment to deforestation-free and responsible sourcing. As a founder member of the Action for Sustainable Derivatives (ASD) coalition, facilitated by BSR and Transitions, in 2020 we engaged with other palm derivative-consuming organisations to encourage wider membership, as well as promoting the work of ASD through other groups such as the UK Roundtable on Sourcing Sustainable Palm Oil.

The rise of inequality

In 2020, income inequality increased for most developed countries. COVID-19 has deepened existing inequalities, hitting the poorest and most vulnerable communities the hardest. Extreme weather events and environmental degradation caused by climate change are also having the greatest impact on these communities.

Becoming People Positive

During 2020 we formally incorporated the Croda Foundation as a legal entity. We will use our smart science and technologies to improve the lives of those who need it most within relevant communities. In response to the COVID-19 pandemic, our Acts of Kindness initiative helped us to provide support to the most vulnerable within our local communities, for example through the provision of PPE or food parcels. Through our health and wellbeing target, our adjuvant technologies will be included in 25% of WHO pipeline vaccines. Vaccination is one of the most cost-effective ways of protecting people from disease, and can have the greatest impact in poorer countries where health services are insufficient.

trade-offs to be made between solving social and environmental issues and achieving economic growth – they are complementary to each other.

How we are responding

Sustainability is our overriding strategy and is built around the SDGs which are designed to create a safer, fairer, more resilient world for everybody. Our Commitment to be Climate, Land and People Positive has no geographical boundaries and is balanced across the needs of climate, nature, and society. We apply the same high standards everywhere we operate, with a particular emphasis on governance, sustainability and business ethics in recognition that many market structures and associated regulatory frameworks are still emerging.

We carefully consider all stakeholders in our ecosystem and strive to adopt best practices in environment, labour and human rights, ethics, and sustainable procurement.

Digital

Digital transformation offers unparalleled opportunities to help overcome the world's biggest challenges. Whether it is the increasing requirements for integrity in supply chains, the need for faster innovation, the continued drive to make more with less, or the rapidly increasing expectations for sustainability reporting and disclosure, digital tools offer speed, intelligence, connected supply chains and overall efficiency gains.

Consumers, empowered by digitalisation, have changing expectations. They expect greater choice and want to know more about the products they use, favouring companies that innovate responsibly, are transparent and demonstrate their purpose in their actions.

How we are responding

We are progressing several initiatives across all aspects of our business model. In Engage, we have collated a huge amount of data from suppliers as

1. un.org/sustainabledevelopment.

2. World Meteorological Organization.

3. 2019 IPBES Global Assessment on Biodiversity and Ecosystem Services.



Our stakeholder ecosystem

This year, more than ever, we felt the value of working closely with partners and supporting every one of our stakeholders in our ecosystem. Our continued success and positive impact on the world will be driven by the strength of these relationships with others.



...our success and our positive impact on the world are dependent on how we work with all of our stakeholders.”

Anita Frew

Chair of the Board of Directors

Our shareholders

We maintain a two-way dialogue with our shareholders, so that they understand and support our strategy and can assess our Environmental, Social and Governance (ESG) performance.

We continue to increase engagement on ESG topics with both non-holders and long-standing shareholders and see an increasing proportion of specialist investors on our register. In October, we held a Virtual Investor Sustainability Seminar updating investors on our 2030 Commitment and progress. The event was well received, with great engagement during the live Q&A session.



250

attendees to our virtual investor event on sustainability



Our shareholders



£200k

Croda Acts of Kindness fund



Our communities

Our communities

Employees at our sites worldwide are active members of their local communities. Understandably, our neighbours expect us to act responsibly, safely and sustainably. We take our commitment to our communities seriously, going further to make a positive difference and support them at times of need.

Through the Croda Foundation we aim to improve the lives of one million people in relevant communities by 2030, a key part of our Commitment to be People Positive.

[See page 27](#)

CRODA

Our customers

We work in partnership with our customers to provide our innovative and sustainable ingredients in a way that meets their commercial and sustainability goals whilst delivering on our Purpose. Selling more than 7,000 ingredients to over 17,000 customers gives us significant exposure to customers ranging from multinational companies to regional and independent brands.

The strength of our customer partnerships provides immediate insights and fuels our continuous innovation. The output from these relationships benefits our customers, consumers and industries globally. We create ingredients that help these customers to meet their own sustainability goals, by providing greater transparency on the origin, composition and environmental impact of the ingredient, together with sustainable benefits in use.

[See page 24](#)



Our customers

c7,000

speciality chemical ingredients

c17,000

customers worldwide

75%

average Pulse Survey response rate



Our people

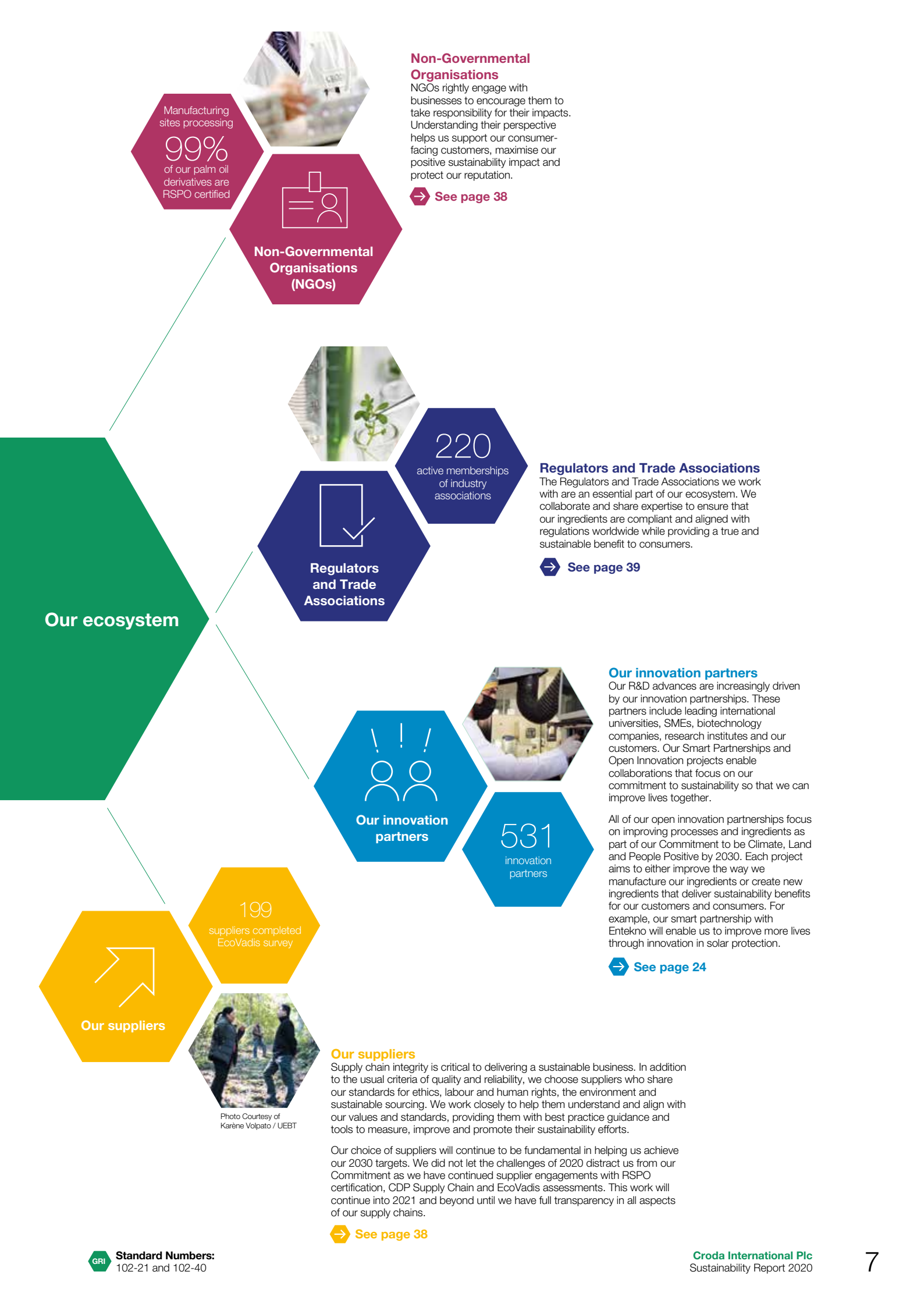


Our people

We have over 5,600 employees across 30 manufacturing sites and many more offices and laboratories worldwide. Our mix of scientists, engineers, sales, customer services, production and support function experts work together with a clear, shared Purpose, to use Smart science to improve lives™.

The Croda culture and our shared values of 'Responsible', 'Innovative' and 'Together' focus and enable our people to drive our authentic Commitment to become Climate, Land and People Positive by 2030. This is through both their work and their involvement with local sustainability groups and initiatives. We call this our Difference.

[See pages 32-33](#)



Our ecosystem

Manufacturing sites processing
99%
of our palm oil derivatives are RSPO certified



Non-Governmental Organisations (NGOs)

Non-Governmental Organisations
NGOs rightly engage with businesses to encourage them to take responsibility for their impacts. Understanding their perspective helps us support our consumer-facing customers, maximise our positive sustainability impact and protect our reputation.

➔ See page 38



220
active memberships of industry associations

Regulators and Trade Associations

Regulators and Trade Associations
The Regulators and Trade Associations we work with are an essential part of our ecosystem. We collaborate and share expertise to ensure that our ingredients are compliant and aligned with regulations worldwide while providing a true and sustainable benefit to consumers.

➔ See page 39



Our innovation partners

531
innovation partners

Our innovation partners
Our R&D advances are increasingly driven by our innovation partnerships. These partners include leading international universities, SMEs, biotechnology companies, research institutes and our customers. Our Smart Partnerships and Open Innovation projects enable collaborations that focus on our commitment to sustainability so that we can improve lives together.

All of our open innovation partnerships focus on improving processes and ingredients as part of our Commitment to be Climate, Land and People Positive by 2030. Each project aims to either improve the way we manufacture our ingredients or create new ingredients that deliver sustainability benefits for our customers and consumers. For example, our smart partnership with Entekno will enable us to improve more lives through innovation in solar protection.

➔ See page 24

Our suppliers

199
suppliers completed EcoVadis survey



Photo Courtesy of Karène Volpato / UEBT

Our suppliers
Supply chain integrity is critical to delivering a sustainable business. In addition to the usual criteria of quality and reliability, we choose suppliers who share our standards for ethics, labour and human rights, the environment and sustainable sourcing. We work closely to help them understand and align with our values and standards, providing them with best practice guidance and tools to measure, improve and promote their sustainability efforts.

Our choice of suppliers will continue to be fundamental in helping us achieve our 2030 targets. We did not let the challenges of 2020 distract us from our Commitment as we have continued supplier engagements with RSPO certification, CDP Supply Chain and EcoVadis assessments. This work will continue into 2021 and beyond until we have full transparency in all aspects of our supply chains.

➔ See page 38

Management and governance

Despite all the difficulties that 2020 brought, we made significant progress in the year towards our goals and have built encouraging momentum.



The pandemic has strengthened our commitment to the SDGs and to help create a fairer, safer, and more resilient world; one that reduces the potential for a pandemic to take hold in the first place and makes us much better prepared to deal with it if it does.”

2020 closed off our sustainability targets which were set five years ago, and I am delighted to report that many of them were achieved, highlighting the dedication of our workforce around the world and further decoupling our environmental impact from financial performance. On the environment, we reduced our GHG emissions by 15.4%, our water consumption by 16.0%, our waste to landfill by 33.9% and our emissions of volatile organic compounds by 13.3%. We increased the amount of non-fossil fuel in our energy mix to 25.0% and, although this fell short of our target of 27%, this was for technical reasons rather than lack of investment. From a safety perspective, on a like-for-like basis our 2020 target was achieved a year early and was maintained this year at TRIR 0.54. This shows an underlying positive trend resulting from our focused attention. Including acquisitions and employee COVID-19 cases, the TRIR was 0.86. Our

target is to reduce this to 0.3 by the end of 2024. Finally, we completed Process Risk Reviews of all manufacturing processes and are on course to provide an added level of assurance by conducting an independent assessment of our high-hazard processes by the end of 2023.

We launched our action plan for the decade in last year's report – our 2030 Commitment. We firmly believe that tackling some of the biggest challenges the world is facing requires transformational change – doing more of the same but a bit faster is simply not good enough. Our strategy is therefore restorative, we aim to put back more than we take, and it is balanced across the needs of climate, nature, and society. The global impact of the COVID-19 pandemic has not detracted us from our Commitment, rather it has further strengthened our resolve to take a leadership position.

Despite all this year's challenges, we made significant progress towards our goals and have built encouraging momentum.

On **Climate Positive**: we developed decarbonisation roadmaps for our top 10 emitting sites which gives us confidence that it is possible to reduce emissions in line with the most ambitious 1.5°C pathway. We increased the bio-based content of our organic raw materials to 67%, and externally verified four new case studies that will contribute to our industry-leading carbon cover ratio target where avoided emissions will be a factor of four times the emissions associated with our business and supply chain.

On **Land Positive**: accelerating our move away from fossil feedstocks comes with the inherent responsibility of ensuring this is not at the expense of nature. Guaranteeing no deforestation, protecting biodiversity, safeguarding soil health, and reducing water consumption are therefore important considerations for us and our customers. We are proudly already 'land net zero' in that our range of biostimulants, adjuvants and seed coatings save more land than is used to grow all of our bio-based raw materials. Our ambition for this decade is to be truly restorative such that the land we save outpaces the land we use as our business grows by at least a factor of two. In 2020, we defined protocols for measuring the land area saved based on the positive yield impact of our products and their use-rate and are pleased to have saved 16,455 hectares during the year, making excellent progress towards our 2030 target

On **People Positive**: 2020 was a year when our Purpose, Smart science to improve lives™ was truly demonstrated. Being part of an essential industry meant that our smart science was critical to numerous COVID-19 related applications and our workforce rallied around this important cause to maintain supplies to the critical health care markets. We worked closely with the pharmaceutical industry to develop lead vaccine candidates and supported customers through clinical trial and scale-up phases. Our speciality excipients, lipids and adjuvants have been formulated into vaccines that are now being approved for use by regulatory authorities all around the world. Our innovation in sunscreens grows in importance as the number of melanoma cases continues to increase rapidly. During 2020 we entered a collaborative partnership with Entekno Materials, Turkey, whose unique solar protection technology is an important addition to achieving our goal of helping to protect 60 million people annually from skin cancer.

On **Fundamentals**: during 2020 we updated our SHE Behaviour Standard to align with our Purpose and trained all senior leaders in its application. We implemented specific training for the leadership teams of newly acquired businesses to help them accelerate performance towards Group standards. We partnered with the Fair Wage Network and have begun work to ensure every permanent and temporary employee receives a living wage. Our supplier code of conduct was comprehensively reviewed, updated, and communicated to all suppliers. Finally, we achieved an EcoVadis platinum medal award, putting us in the top 1% of all assessed organisations for sustainability practices.

I am delighted with the significant progress we have made this year towards our 2030 agenda, to be Climate, Land and People Positive. Thanks to the diligence and hard work from all our colleagues throughout the Company we have a roadmap ahead with milestone targets and the focus to succeed.

Stuart Arnott

President Sustainability

Our Sustainability Committee



Stuart Arnott
Chair and Supplier Partnerships



Phil Ruxton
Communications, Staff Engagement, Croda Foundation



Ian Hobday
Carbon Cover and Sustainable Innovation



Mark Robinson
Reducing Emissions, Health and Safety, Environmental Stewardship



Dave Cherry
Land Use and Crop Science Innovation



Julia Creasey
Responsible Business and ESG Reporting



Freek Snieders
Health and Wellbeing



Sandra Breene
President Regional Delivery



Mine Enustun
Product Stewardship



Murali Duvvuri
Regional Head



Tracy Sheedy
Gender Balance, Fair Income, Knowledge Management, Wellbeing

Board and Executive Committee oversight

Our two most senior Committees, the Board of Directors and Group Executive Committee, are ultimately responsible for our financial and non-financial performance. They maintain an active role in ensuring that sustainability remains an integral element of our business strategy. Stuart Arnott, President Sustainability, is a full-time member of the Executive Committee and chair of our Sustainability Committee (see above).

In 2020, our Executive Committee committed to giving our non-financial key performance indicators (KPIs) the same level of importance as our financial KPIs, with these now reviewed quarterly during their regular meetings. Our Board has also given sustainability appropriate focus, conducting a full review of progress against our Commitment in October.

Sustainability Committee

To ensure ownership of our Commitment and 2030 KPIs across Croda, the Executive Committee approved the creation of the Sustainability Committee during 2020. This is a formal sub-committee to the Executive Committee, with delegated authority to oversee the development, measurement and delivery of our sustainability KPIs, communications, and further development of our sustainability agenda.

The Sustainability Committee comprises members of the Executive Committee and senior leaders from across Croda, with each Committee member having responsibility for delivery of specific 2030 targets. Expert resource is provided by Group Sustainability and third-party partners. Since it was

established in June 2020, the Sustainability Committee has met three times, with plans to meet four to six times per year going forwards.

Setting, measuring and reporting on non-financial KPIs

As we launched our Commitment, 2020 represented the final year in the previous five-year sustainability KPI cycle, and we complete the reporting of these targets on pages 40-41 in this report.

We have undertaken significant work in 2020 to develop the detailed metrics and reporting methodologies behind our 2030 targets. Across the Group we have identified the owners of the data required for this robust reporting methodology, applying the principle of placing responsibility for collecting and approving data as close to source as possible. We are also progressing work to ensure that most metrics are verified by relevant competent third parties. This will ensure our non-financial data is audit-compliant as and when required.

To bring our non-financial data in line with our financial, a dashboard has been developed to graphically display progress to the Executive Committee. Investment is planned in 2021 to automate collation and reporting of these metrics.

2020 reporting parameters

This report covers the sustainability performance of Croda International Plc for the period 1 January 2020 to 31 December 2020. The scope of this report, and data within it, is all wholly owned operations, plus those operations where we have significant management influence due to a majority shareholding*.

* Excluding Avanti and Iberchem, unless otherwise stated.

Embedding our 2030 strategy across Croda

In 2020 we embarked on a major engagement programme across Croda to reach all our employees. This gave us the opportunity to discuss the importance of our Commitment, as well as listen to ideas and understand how people could contribute. This is a multi-year programme using various communication methods and differing content to ensure relevance to each employee and their role at Croda, following a similar approach taken previously that allowed us to successfully embed our Purpose across the organisation.









































Crucial to this work is enabling and encouraging conversations about our Commitment to take place informally and in a decentralised way. To support this, we have focused on a supervisor/line manager training programme to build confidence in leading conversations about our Commitment during team meetings, when the leaders and sustainability experts are not around. The impact of COVID-19 on travel and office working meant that these sessions were delivered virtually to small groups, with the majority led by either the President or Vice President Sustainability. During 2020, we trained over 250 managers, representing about 75% of the target audience, and the remainder will be trained during early 2021.

Material areas

Our Commitment to becoming Climate, Land and People Positive, as well as to our Fundamentals, was developed to be aligned with the objectives of the United Nations Sustainable Development Goals. We have mapped each objective within our material areas to show how they directly contribute to specific targets of relevant SDGs.

For each 2030 Commitment target we have identified the primary SDG to which we are contributing, as well as the specific SDG target references relating to the KPI and where in our value chain they will be impacted: suppliers, our own operations or through use of our products and services. We have then identified the additional SDGs significantly impacted by our work to meet this target. This evaluation aligns with the approach taken by the United Nations Global Compact, with their SDG Ambition initiative for business*.

Material area	SDG impact		Value chain	SDG targets by scope	
	Primary	Additional		Operations	Products & services
Climate Positive					
 Carbon Cover			13.2	7.2	7.3
Reducing Emissions			13.2	7.2, 9.4, 13.2	
Sustainable Innovation			12.2		
Land Positive					
 Land Use			15.2, 15.5, 12.2		2.3, 2.4
Crop Science Innovation					15.2, 15.3, 13.1
People Positive					
 Health and Wellbeing					3.3, 3.4
Improving More Lives					
Gender Balance				5.5	
Fundamentals					
 Health, Safety & Wellbeing				3.4, 3.9, 8.8	
Process Safety				3.9, 8.8	
Environmental Stewardship				6.3, 6.4, 12.5	
Fair Income			8.5	8.5	
Supplier Partnership			12.6, 12.7		
Knowledge Management				4.3	
Quality Assurance				12.2, 12.5	
Product Stewardship			12.2	3.9	3.9, 14.1
Responsible Business					



Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The partnerships that form our ecosystem are vital in supporting us to achieve our 2030 Commitment.

* <https://unglobalcompact.org/take-action/sdg-ambition>

Decarbonisation roadmaps

We are committed to reducing emissions in line with the science required to limit global warming to 1.5°C above pre-industrial levels. To achieve this we need to reduce our emissions in line with our science-based targets by 2030 and ultimately become net zero by 2050.

In 2020, our 10 manufacturing sites with the highest emissions developed decarbonisation roadmaps to 2030. This involved firstly looking at each site's current energy requirements, identifying opportunities to decarbonise through energy use reduction, energy re-use and replacement with renewable energy. Sites then considered incremental improvements ranging from efficiency gains through to large transformational step changes such as replacement process technology. These opportunities have then been quantified, exploring the financial and carbon-reduction impacts of the proposed changes, ultimately forming a 10-year roadmap to decarbonisation for each site.

Employees at all sites have shown dedication and passion for Sustainability in helping us work towards our Commitment, especially Climate Positive. The roadmaps they produced will play a vital role in achieving our Climate Positive target.

Jon Elliott, Regional Technical Manager, Croda Inc. said:

"Working on the site decarbonisation strategies has been a great opportunity to shape the future of Croda. Previous discussions have been focused on small projects, but this wholesale review of operational site energy needs affords us the opportunity to look deep into the future and focus on more impactful changes. Workshops throughout the year helped us to understand best practice and put it into use to develop our site strategy."

Steve Brewer, Lead Engineer, Process Innovation Team, UK said:

"At the beginning of the year Croda gave me the opportunity to undertake an external sustainability qualification and it was enlightening to learn about the necessity to limit global warming to 1.5°C above pre-industrial levels, and the scale and pace of reduction in carbon emissions that Croda has to make to align with this objective.

"Initially, the task of rapidly decarbonising our production operations seemed quite daunting. The framework we developed to help with this involved breaking down the roadmaps into achievable tasks. I particularly enjoyed working with the sites on the third stage of the framework where decarbonisation opportunities were identified for each plant on that site. Now that the majority of our larger sites have produced decarbonisation roadmaps it is clear that, while it will require a sustained commitment to

delivering projects at all our sites over the next 10 years, Croda's decarbonisation ambitions are challenging but achievable.

"The process also gave some of our graduates the opportunity to contribute their fresh perspective to site decarbonisation as well as having the opportunity to learn about the sustainability challenges Croda and the wider chemical industry face."

“Working on the site decarbonisation strategies has been a great opportunity to shape the future of Croda.”



Jon Elliott
Regional Technical
Manager, Croda Inc



Steve Brewer
Lead Engineer,
Process Innovation
Team, UK



Shu Ying Tan
Graduate Trainee,
Croda Singapore

Shu Ying Tan, Graduate Trainee, Croda Singapore, said:

"The decarbonisation roadmap is how we plan for and look forward to a sustainable future together! It is an exciting and valuable experience to be involved in creating the roadmap, where we can improve current processes and explore novel technologies which may very soon become the norm for us. While building Singapore's roadmap and helping out with one for a site in China, I had the chance to work with colleagues from different departments and sites

as well as meet experts from different organisations. I have learnt a lot from them, and from these exchanges a valuable network of support between sites has been built. Despite the challenges presented by our ambitious targets, I find it reassuring that Croda is taking big steps in the sustainability movement, an indicator of our strong belief in ethical conduct and doing the right thing."



Watch
Smart science in action
www.croda.com



Climate Positive

We will continue to reduce our carbon footprint and increase our use of bio-based raw materials, whilst the benefits in use of our ingredients will enable more carbon to be saved than we emit through our operations and supply chain.

Highlights

B

2020 CDP Climate Change score, recognising our management of climate-related risks and opportunities

67%

of our organic origin raw materials were bio-based in 2020, coming from renewable crops and biotechnology

839,220

tonnes of CO₂e will be avoided through the use of our products sold during 2020, as verified by Avieco

10 sites

prepared decarbonisation roadmaps, representing 90% of Group scope 1 and 2 emissions

Climate Positive by 2030

Objectives

Reducing Emissions:

We will achieve our science-based targets (SBTs) by reducing our emissions in line with limiting the global temperature rise to 1.5°C above pre-industrial levels, maximising the use of renewable energy in our operations.

Carbon Cover:

We will enable the transition to a low-carbon economy. We will be Climate Positive, working closely with our customers to develop products that offer carbon-saving benefits in use.

Sustainable Innovation:

We will accelerate the transition to bio-based products, moving away from fossil/petrochemical feedstocks.

Targets

- By 2030, we will have achieved our SBTs, in line with limiting global warming to 1.5°C
- Thereafter, by 2050 we will be a net zero organisation

- By 2030, use of our products will avoid four times the carbon emissions associated with our business-our 4:1 carbon cover

- By 2030, over 75% of our organic raw materials by weight will be bio-based, absorbing carbon from the atmosphere as they grow

Milestones

- A reduction of 25% in 2018 absolute scope 1 and 2 emissions by the end of 2024
- All Croda locations to have a decarbonisation roadmap by the end of 2022

- Two million tonnes of CO₂e emissions savings delivered through use of our products by the end of 2024
- 100% of our product portfolio evaluated for downstream scope 3 impact by the end of 2024

- 71% (rolling three-year average) of our organic raw materials to be bio-based by the end of 2024

2020 progress

- Our 10 manufacturing sites with the highest emissions have compiled decarbonisation roadmaps, highlighting opportunities to achieve the scope 1 and 2 emission reductions required to meet our SBTs

- We have established a carbon cover working group with cross-sectoral and regional representation to drive progress against this target

- The production of 100% bio-based surfactants has increased our use of bio-based raw materials by 4%
- Our Research and Development teams have introduced new ways of working to ensure our new products contribute to the achievement of our Commitment

SDGs



SDG 7.2



SDG 9.4



SDG 13.2



SDG 7.2
SDG 7.3



SDG 13.2



SDG 12.2



Reducing Emissions



Tackling the climate crisis is our biggest challenge, but through decarbonisation, innovation and customer collaboration it also offers us our greatest opportunities.

As a “Race to Zero” partner and signatory to the UN Global Compact’s Business Ambition for 1.5°C, we have committed to set a 1.5°C 2030 science-based target (SBT), and to become net zero by 2050. Once approved and published, which will be during the first half of 2021, our commitment to the SBTs will demonstrate leadership within our industry, with only two other companies in the chemical sector having 1.5°C approved SBTs. During 2020, we were invited to join the Science Based Targets Initiative (SBTI) Expert Advisory Group for the chemical sector. As part of this role, we have helped to develop understanding around the barriers, challenges and opportunities for chemical companies setting science-based targets.

Through collaboration we hope that others within our sector, which is recognised as hard to decarbonise, will join us in playing their part to limit global temperature rises to no more than 1.5°C above pre-industrial levels, helping to avoid the most catastrophic effects of climate change. We have moved towards alignment with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and have reported against the disclosures within this year’s Annual Report in advance of the

mandatory requirements. Further work will take place throughout 2021 to ensure we progress towards full alignment with the framework, including conducting scenario analyses.

Throughout 2020 we have been working with our 10 manufacturing sites that have the highest emissions, developing decarbonisation roadmaps to ensure we can achieve our ambitious targets globally (p12). We have set a milestone for all Croda locations to have completed a decarbonisation roadmap by the end of 2022. This year also saw us confirm, and start to implement, an internal carbon price of £50/tonne CO₂e for all capital expenditure proposals, we believe this will continue to drive the right investment decisions to meet the challenging targets we have set.

Whilst we plan our larger abatement projects, many of our manufacturing sites have already started to decarbonise. For example, this year our Incotec manufacturing site in Carrum Downs, Australia, underwent the first phase of a substantial upgrade to improve the sustainability footprint of its operations; with the installation of a 100kW solar energy system on the roof of the factory and office building. A further 50kW of solar panels will be installed in 2021.

Each site also ensures, wherever possible, they use low-carbon energy sources from their local area. For example, our manufacturing site in Chocques, France uses steam generated from

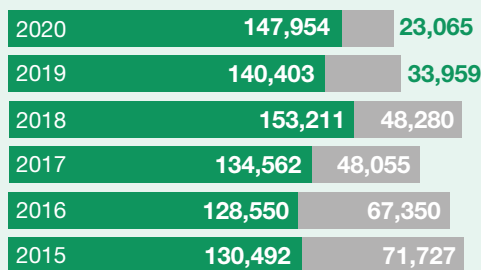
the incineration of local municipal waste. This year, as part of a replacement project for the waste plant, we have been able to secure continued access to this steam once the new plant is operational.

Scope 3 emissions

The majority of our emissions lie within our supply chain. This is mainly within the purchased goods and services category as carbon embedded within our raw materials. In 2021 we will have our scope 3 science-based target verified. Collaboration, engagement and encouraging suppliers to set their own emissions reduction targets will be key to us achieving our own target. In the 2020 CDP Supplier Engagement Rating assessing performance on governance, targets, scope 3 emissions, and value chain engagement we scored A-. We have set a milestone target that by the end of 2024, key suppliers representing at least 50% of our raw material volumes will sign up publicly to SBTi or equivalent carbon reduction targets.

The percentage of carbon within the supply chain increases as we move downstream towards our customers. As many of our key customers have also committed to science-based targets, our Commitment and decarbonisation targets will support them in achieving their own scope 3 reduction goals, with the cradle-to-gate carbon footprint of our products significantly reducing over this critical decade for climate action.

GHG emissions (TeCO₂e)¹



● Scope 1 ● Scope 2

Since 2015, our baseline year, our total scope 1 and 2 GHG emissions have reduced by 15.4%. Within this, our scope 1 emissions have increased by 13.3%, whilst we have seen a greater than 67% reduction in scope 2 emissions. Since 2017 we have been reporting market-based scope 2 emissions, which better reflect our purchasing of renewable electricity at greater levels than the national averages in the countries where we operate.

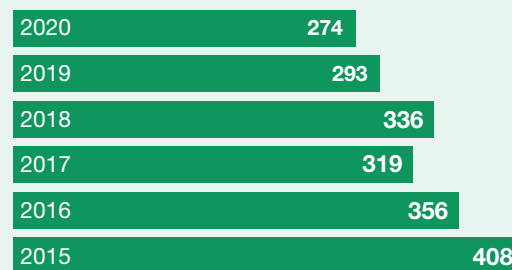
Scope 1 and 2 GHG emissions from our UK operations were 35,277 TeCO₂e in 2020 (2019: 34,932 TeCO₂e) representing approximately 20% of our global GHG emissions.

Energy consumption and efficiency improvements

In 2020 we consumed 1,113,064,125 kWh (2019: 1,026,316,451 kWh) of energy across our global operations. This included 223,177,222 kWh (2019: 223,465,355 kWh) consumed by UK operations. As part of our strategy to improve the efficiency of energy consumption, 27 projects were implemented globally, realising 31,642,487 kWh of annualised efficiency improvements, equivalent to 18,500 TeCO₂e avoided emissions.

1. Scope 1 emissions are calculated using Defra Government emission conversion factors for greenhouse gas company reporting. Scope 2 emissions are market-based (location-based by proxy for 2015 and 2016).

GHG emissions intensity (TeCO₂e/£m)



● Scope 1 and 2 emissions intensity

Our chosen measure of GHG emission intensity divides our GHG emissions (market-based scope 2 emissions) by value added², a measure of our business activity. Our 2015 baseline year, along with 2016, were calculated using location-based scope 2 emissions as a proxy. Since 2015, our GHG emissions intensity has improved by 33%, illustrating how we are decoupling growth from our environmental impact.

Our scope 1, 2 and 3 GHG emissions are verified by Avieco. Their formal independent verification statement is available at: www.croda.com/carbonverification.

2. Value added is defined as operating profit before depreciation and employee costs at 2015 constant currency.

Carbon Cover



SDG Targets:
7.2, 7.3 and 13.2

Our ingredients offer many sustainability benefits in use, including helping our customers and their consumers to reduce or avoid greenhouse gas emissions. Through our Carbon Cover target our aim is that, by 2030, the use of our products will avoid four times the carbon emissions associated with our business. To achieve this target, we will:

- Discover and account for avoided emissions using our existing ingredients.
- Develop innovative, carbon-saving ingredients to meet our customers' needs.

“
By achieving this target, in 2030, the use of our products will be avoiding 3.8 million tonnes CO₂e per year, equivalent to removing the emissions associated with one coal-fired power plant for the whole year.”

In 2020 we identified several new Carbon Cover case studies for existing ingredients, quantifying the avoided emissions associated with their use. Our methodology for quantifying and reporting these avoided emissions is externally verified by Avieco.

Product case studies verified in 2020:

- PaddyRise™, a seed treatment product by Incotec, which increases the resilience of young rice plants to pests and diseases, resulting in a yield improvement. This reduces the carbon emissions intensity of rice production.
- Matexil™ LTW Textile, an additive used in fabric dyeing that enables processing at lower temperatures, resulting in energy savings.
- Veritas™, a biostimulant product by Plant Impact. This has been demonstrated to improve yields in soybean plants, leading to more efficient land use and in turn has associated carbon savings (see case study p20).
- Some of our by-products are sold as feedstocks for biofuels, used in place of petrochemical fuels. This offers a renewable route to generating energy avoiding emissions associated with burning fossil fuels (see case study below).

The total avoided emissions associated with ingredients from verified case studies was 839,220 tonnes CO₂e in 2020, which is equivalent to a carbon cover ratio of 0.8:1. Use of these products will also avoid 38.5 million m³ of water throughout their lifetime. This year, we have maintained our carbon cover ratio at 0.8:1 through the addition of new case studies. Avoided emissions associated with sales of our 2019 case studies fell slightly, primarily due to a slowdown in the automotive market, where our polymeric friction modifiers in engine oils provide significant emissions avoidance.

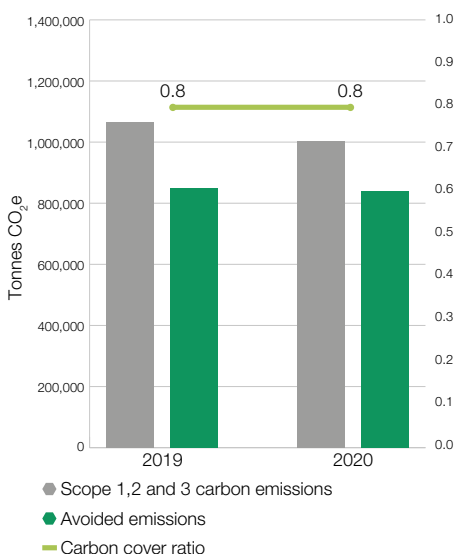


Improved yield reduces the carbon emissions intensity of rice production.

This highlights the importance of building up the carbon cover ratio for a much greater percentage of our product portfolio, which will help minimise the impact of differences due to changes in product mix and gain a more accurate picture of our true carbon cover. By the end of 2024 we will have evaluated 100% of our existing product portfolio for downstream carbon impact and will have accounted for two million tonnes of CO₂e avoided emissions.

Energised by the results of our verified case studies, we have in place a new Carbon Cover working group. The group will work to build our case studies and look to develop a methodology for us to identify avoided emissions for larger product/application areas, rather than individual product case studies. Having defined our new sustainable innovation ways of working for R&D (p16), carbon-avoiding potential is now evaluated for all new product launches.

Figure 1: Carbon Cover ratio



By-products for biogas and biofuels

Since 2006 we have been working with MBP Solutions who recover by-products from our manufacturing sites and repurpose them to sell for use in other industries. These by-products are derived from biomass and include wool grease, rapeseed oil and fish oil from our sites in the UK and the Netherlands. These are then repurposed by MBP for use as biogas and biofuels in energy production.

This biogas and biofuel can be used in place of petrochemical fuels such as diesel and natural gas, avoiding the greenhouse gas emissions associated with burning these fossil fuels. The bio-based nature of fuels made from our by-products means they are almost carbon neutral when used as a fuel, offering customers significant scope 1 emission savings.

Through working with MBP 13,800 tonnes of by-product was supplied as a biofuel feedstock in 2020. Using these biofuels in place of petrochemical alternatives, 31,000 tonnes of CO₂e has been avoided over the year. As well as contributing to SDG 7, by helping to scale up the supply of renewable energy, this collaboration also contributes to SDG 13 by improving how industries generate and use energy and in turn reduce their carbon footprint.

Additional destinations for our by-products include their use in animal feed, helping improve efficiency along the food value chain, as well as for agricultural fertilisers.



Sustainable Innovation



SDG Target:
12.2

In 2020, our use of bio-based organic raw materials increased to 67%; this is due to our bio-surfactants plant coming on-line in North America, displacing petrochemical-derived raw materials with those from bio-ethanol. Our 2030 target is for our use of bio-based organic raw materials to reach 75%, three times that of the target of the European chemical industry. Our interim target is to reach 71% on a rolling three-year average by the end of 2024. Bio-based raw materials sequester carbon from the atmosphere as they grow, so using them to displace fossil-based materials has a positive impact on the climate.

In order to progress further towards this target, our global Research and Development (R&D) team developed a database of bio-based raw materials, including those which we do not currently use. This database will broaden the range of bio-based raw materials that can be selected during new product development and will help increase the number of products in our portfolio that are 100% bio-based. A new cross-sector and multidisciplinary working group was established during 2020, with a purpose to identify new opportunities, through innovation and collaboration, to further increase our use of bio-based raw materials.

Our ECO range of Climate Positive surfactants

Our ECO range of 100% bio-based surfactants demonstrate the added value we can offer customers through our Commitment to be Climate Positive. In the image below, our Tween range of surfactants manufactured in North America is used as an example of this. Customers can immediately obtain a carbon reduction of 12% by switching to our bio-based Tween and will see this grow to 23% as the site reduces its emissions in accordance with our science-based target. This has the potential to reach a 71% reduction if we are able to move to sugarcane ethanol instead of corn ethanol.

Our Tween range of surfactants are sold as adjuvants through our Crop Protection business, increasing crop yields by improving pesticide efficacy, minimising land use and avoiding emissions associated with agricultural practices. As well as contributing to our Land Positive commitment, this will help us achieve our Carbon Cover target. If our Tween surfactants are included in formulations used on corn crops in the US, the raw material feedstock into our bio-surfactant plant will have a lower carbon and land footprint, with emissions savings passed on to our customers, demonstrating the circular nature and benefits of our Climate Positive commitment.

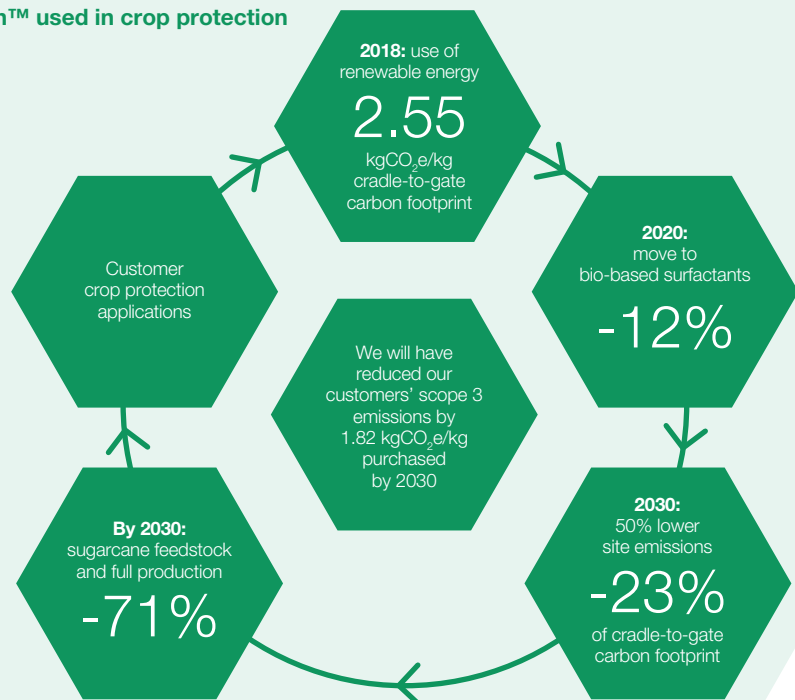
New ways of working in R&D

Over the past year significant progress has been made aligning the work of our global R&D teams with the SDGs. This began in November 2019, where we set ourselves the challenge to answer, “what do the SDGs mean to R&D?” From this, a small group began investigating how each of the 169 targets beneath the SDGs has an impact on innovation, showing us how we can better use the SDGs to direct our work in R&D. The team shared these findings externally in February 2020 where we also presented it to industry experts to challenge our thinking.

Each business unit then conducted a review of their current innovation projects using this new methodology. These reviews showed that, although we are doing well, more could be done to maximise sustainability outcomes within each project. This has led to the creation of our NP&D Sustainability Checklist, which sets out minimum criteria for new product development. The checklist allows our scientists to rate ongoing innovation projects against the SDGs and is supported by a guidance document with detailed explanations of each target, including how the targets translate internally, and criteria for meeting them. This checklist is a progression from our alignment with the 12 Principles of Green Chemistry, which has been embedded in our new product development for many years. The SDG targets used in the new



Tween™ used in crop protection





checklist have been mapped against the 12 Principles to ensure we have captured all elements of these important principles. Using the SDG targets helps R&D to align with our corporate ambitions, as well as providing a more holistic view of sustainability, particularly covering the extrinsic impacts of our products. This ensures consistency when reviewing sustainability criteria for NPD projects as well as ensuring accurate data for reporting against our targets.

Since the launch of our 2030 Commitment, and following the development of our NPD Sustainability Checklist, we have seen a shift in behaviour within our R&D teams. Sustainability is now a primary consideration during new product development and teams have an even greater drive to ensure sustainability is maximised in every new product that we create. This new way of working sees our R&D teams challenged to assess the impact of their projects and

ensure that they are contributing towards our Commitment to become Climate, Land, and People Positive. This new approach was integrated throughout our global R&D function through webinars and discussions with our R&D Sustainability Champions.

To understand how we can go beyond our existing ways of working to embed sustainability in all new innovations, Sarah Davidson, a graduate from our European Graduate Development Programme, was appointed to the new role of Sustainability Co-ordinator, Global R&D. This role was designed to give the function the support they need to drive activity to help us deliver our 2030 targets.

“To improve the impact of our products, sustainability needs to be built in during the design and development of new products-this is what R&D do! So we need to ensure our scientists have the skills and knowledge to incorporate sustainability into the innovation process. And this is what I aim to do in my new role.”

Sarah Davidson
Sustainability Co-ordinator, Global R&D



A positive sustainability impact: our new North American office and innovation centre

As part of our process for making new investments, we believe it is critical to consider how emissions can be reduced, and our sustainability impact maximised.

In February 2020, we started plans to relocate our North American office and innovation centre to Princeton, New Jersey. As part of our planning we completed a Sustainability Impact Assessment (SIA). This helped us understand the impact of the move from Edison, New Jersey to Princeton, which would include the relocation of some employees from other sites in the North East of the US. Social and environmental impacts were considered and an action plan to maximise positive sustainability impact was developed. The new facility will run entirely on 100% renewable electricity including site heating, therefore there will be zero carbon emissions associated with powering the site. Other features, including a state-of-the-art building management system and LED lighting will maximise energy efficiency and reduce overall energy requirements.

The new site will go beyond reducing carbon emissions, with many aspects incorporated into the design to maximise employee wellbeing. The space is bright, open and filled with natural light, as well as numerous plants to create a calming biophilic atmosphere. An on-site wellness room offers a space for nursing mothers or to enable quiet meditation. The site is located within a beautiful, natural environment, with trees and wildlife for employees to enjoy. Employee amenities include a fitness centre and on-site restaurant.

Recycling and minimising waste will be an important aspect of life at Princeton. Central recycling stations will be available and their use will be encouraged as there will be no desk-side bins. During the relocation, we recycled 20 tonnes of paper, and we plan to significantly reduce new paper use in Princeton. Recycling has been a key part of our office design with furniture chosen that incorporates recycled components, for example plastic bottles or recycled polyester, as well as choosing many items of furniture that are highly recyclable to eliminate waste when they near their end of life.

“We are pleased to be a flagship location for sustainability within the Croda organisation, keeping our Commitment to sustainability front and centre throughout all phases of the project. We’ve prioritised this in both large and small ways to deliver a facility created to inspire our teams and helping to deliver the ‘next gen’ green innovation to our customers.”

Cara Eaton
Marketing Director, Personal Care

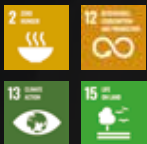
Eliminating microplastics from seed treatment



“With our technologies, growers do not have to sacrifice performance for better environmental solutions.”



Marta Dobrowolska-Haywood
Head of Research and Technology, Incotec



Watch
Smart science in action
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An important part of our commitment to Land Positive is that, through our Crop Science Innovation, we will address some of the key challenges in agriculture, helping to mitigate the impacts of climate change and land degradation. A great example of this is the work by Incotec to develop microplastic-free seed coatings.

There is growing global concern about the accumulation of microplastics in the environment, and for good reason: microplastics remain present in the environment for a significant amount of time after their initial release, and, as levels increase, there is potential risk to animal and human health. One of the biggest challenges in reducing microplastic pollution is that they are resistant to normal environmental degradation. This is why new European legislation banning intentionally added microplastics in seed coatings is expected to come into effect in 2027.

Developing microplastic-free seed treatments is complex. For these new, microplastic-free, film coatings to be effective they must glue the plant protection ingredients as effectively as today's polymers, and cannot interfere with seed health, shelf life or germination. This problem is made more complex by the fact that different crops and different plant protection products react differently to different coatings. It's a challenging technical problem to solve.

During 2020, Incotec, our seed enhancement business, succeeded in developing the first microplastic-free products for sunflower, corn and vegetable seeds. These technological breakthroughs solve a real environmental problem without the growers having to sacrifice crop efficiency. Our colleagues at Incotec are continuing to develop more microplastic-free seed coatings and their full portfolio will be microplastic-free well before the new European legislation comes into force, helping customers get ahead of a major regulatory impact, and meet their industry's proactive sustainability targets. Whilst Europe will be the first to have this new legislation, we anticipate similar restrictions will be adopted elsewhere.

The main contributors to microplastics in EU surface water are car tyres, which account for 50% of the pollution, followed by losses of plastic pellets, road markings and washing of clothes. Agricultural activity accounts for around 10% of the total microplastic release, and seed treatment for less than 1%*. Whilst we may not be the largest contributors to microplastics in the environment, we believe that we can, and should, play an active part in reducing this environmental impact.

* ECHA, Annex XV Restriction report of intentionally added microplastics, pages 74-75.



Land Positive

Our products will enable more land to be saved than is used to grow our bio-based raw materials. Our innovation will help customers to mitigate the impact of climate change and land degradation, increasing the availability of land suitable for growing crops.

Highlights

Net zero

We are already 'land net zero' as our range of biostimulants, adjuvants and seed coatings save more land than is used to grow all of our bio-based raw materials

50%

of our land area saved is in Asia and Latin America, where there is greatest demand for food productivity and the highest threat of deforestation

Veritas™

technology breakthrough launched, a biostimulant that increases nutrient mobility in soybean plants leading to increased crop yields and resilience

Awarded

the Syngenta 2020 Supplier Partnership Award, recognising suppliers making the most significant contributions

Land Positive by 2030

Objectives

Land Use:

We will save more land than we use. We will increase agricultural land use efficiency, protect biodiversity and improve food security by sourcing sustainably and inspiring innovation in our agrochemical businesses.

Crop Science Innovation:

We will invest in innovation projects and partnerships to support crop and seed enhancement in mitigating the impact of a changing climate and land degradation.

Targets

- Throughout this decade, the land saved through the application of our crop protection and seed technologies will exceed any increase in land used to grow our raw materials by at least a factor of two, and by 2030 we will save 200,000 hectares per year more than in 2019

- Through to 2030 we will bring an average of two crop technological breakthroughs to market each year that are in alignment with our SBTs and which help our customers mitigate the impact of climate change and land degradation
- By 2030, we will have established three new partnerships to contribute to the recovery of compromised farmland and protect biodiversity. We will work with customers, universities and business councils to achieve this

Milestones

- By the end of 2024, the land area saved through use of our technologies will be at least 80,000 hectares per year more than in 2019

- By the end of 2024, we will have brought 10 qualifying technological breakthroughs to market

2020 progress

- We have calculated our land use footprint attached to the major crops we source. Working with key suppliers we are continuing to seek details of: yield improvements, protection of biodiversity, soil health, water consumption and GHG data supported by certification standards where possible
- We saved 16,455 hectares per year more than our 2019 baseline year
- We define a technological breakthrough as a new technology with a measurable significant effect and either a more sustainable route to an existing performance effect, or a new performance effect from an existing technology platform that is in line with our SDG goals
- We launched one technology, our microplastic-free seed coating, that was deemed to be a breakthrough innovation in crop science

SDGs



Land Use and Crop Science Innovation



SDG Targets:
2.3, 2.4, 12.2, 13.1, 15.2, 15.3 and 15.5

At Croda, our Commitment to be Land Positive by 2030 means that we will save more land than we use. We will do this by increasing agricultural land use efficiency, protecting biodiversity while ensuring food security through sustainable sourcing, and inspiring innovation through our crop businesses.

Land savings

We, like most businesses in the world, have a land footprint, with land required to grow our crop-based raw materials. As land on earth is a finite resource, we have a duty to use it efficiently and to source our raw materials as sustainably as possible. Accelerating our move away from fossil/ petrochemical feedstocks whilst also maximising the amount of land available for crops, means we must have a detailed understanding of not only our land footprint, but the way in which our activity may impact biodiversity, deforestation, food security, soil health and water consumption. We call this more holistic view of our land usage our 'land budget'.

To help ensure we can meet the challenging commitment we have set, we need to understand the land budget for our entire business, and how each of our major manufacturing sites and individual finished ingredients contribute. We believe this level of

scrutiny for our land use, covering land and biodiversity impact, will help continue to drive positive change in our raw material and supplier selection (p38). Importantly, it will shape our customers' ingredient and supplier selection and proactively contribute to their sustainability goals.

During 2020 we defined our protocol for measuring the land area we save. This calculation looks at the positive yield impact of our products and the use-rate of those products per hectare of land. In 2019, our baseline year, we estimate that our range of biostimulants, adjuvants and seed coatings save around 92,000 hectares of land each year.

As our business grows, and as we move towards more bio-based raw materials, we expect that the amount of land used to grow our raw materials will increase. We have therefore set a roadmap towards an absolute Land Positive target of 300,000 hectares of land saved per year by 2030, more than trebling our current land saved figure.

Higher yields

Around 50% of the world's vegetated land is already used for agriculture. Across the world there is uneven demand for agricultural land use, with developed countries seeing a

“
Our crop technologies deliver land area savings equivalent to 110,000 football pitches each year.”

slowing or decrease in demand and developing countries seeing an increase. This demand profile means that growth in crop production needs to come from higher yields and increased cropping intensity, with very little coming from land expansion. Our agrochemical technologies, from biostimulants and adjuvants to seed coatings, designed to increase yields of grain and vegetable crops, are well-placed to support this increasing global demand for crop production. Over 50% of our land area saved is in Asia and Latin America where there is greatest demand for food productivity and the highest threat of deforestation.



Developed by our team at Plant Impact, Veritas improves nutrient mobility in soybean plants.

Improving yield, protecting biodiversity

Our commitment to saving more land than we use is accelerating our development of crop biostimulants. These increase crop yields as well as contributing to a range of other environmental benefits.

One example of these innovative biostimulants is Veritas™. Developed by our team at Plant Impact, Veritas improves nutrient mobility in soybean plants leading to increased crop resilience and more robust plant growth, with a greater number of soybean pods and grains per plant, which increase crop yield.

In Brazil, over 2,000 separate field trials of Veritas were carried out between 2012 and 2017. These showed an average yield increase of 190kg per hectare, representing a yield uplift of 5.2% over untreated controls; similar results were found in field trials in Paraguay and Bolivia. These impressive results represent a significant improvement in yield and land use over conventional techniques.

As a result of this yield improvement, a greater mass of crop can be produced per hectare of land. The land area required to grow one tonne of soybeans is therefore lower, resulting in lower energy and water inputs and lower carbon emissions.

In Brazil, by increasing the amount of crop that can be obtained from existing agricultural land, deforestation can be avoided and the rich biodiversity that exists in Brazil's forests and Cerrado savannah grasslands can be protected. As the global population grows and incomes rise, demand for meat, and the soy-based feed used to raise livestock, will increase. Brazil is one of the world's largest producers of soy, exporting all over the world. Veritas offers a way to increase crop yields, have more efficient land use and help protect our natural world.

The adoption of this technology across a modest 5% of the land used to grow soy in Brazil could avoid the destruction of around 90,000 hectares of this precious biodiversity which is equivalent to the world average agricultural land (crop and grazing land) needed to support 140,000 people. This is a fantastic example of how our smart science can improve lives through the protection of nature and preservation of essential ecosystems.



Targeted delivery, helping protect the environment

To enhance the performance of any spray pesticide formulation, it must be delivered efficiently and effectively to the right part of the crop. Controlling the droplet size of the agricultural spray improves delivery to the target site, reducing both drift and run-off, providing both environmental and economic benefits through less waste and potential impact on biodiversity. We have a range of drift reduction products that help to control the droplet size of agricultural spray, helping ensure that more of the spray is delivered to the intended target crop.

This technology has been developed thanks to the high-speed imaging capabilities in our bespoke wind tunnel. This specialist imaging equipment means we can assess how our products improve spray delivery as well as helping us develop new formulations that meet new customer, market, and environmental needs.



We will play a key role in projects and partnerships to mitigate land degradation, helping prevent deforestation.

“By 2030 our crop technologies will deliver land area savings equivalent to 1,000 football pitches each day.”

Helping to reduce deforestation

We will play a key role in innovation projects and partnerships to mitigate the impact of a changing climate on land degradation; this commitment aligns us further with a number of our major Crop Care customers. Identifying where our technologies and collaborative partnerships can make the most difference, we will continue to focus on crops where increasing demand may be contributing to deforestation, such as soybean. There are over 100 million hectares of soybean plantations in the world*, producing around 50 million tonnes a year*. This is five times greater than the land used for palm plantations, which produce around 80 million tonnes*. Production of soy is far less efficient than palm, requiring greater land use*, making it a significant contributor to deforestation. Delivering yield improvement and increased productivity for crops such as soybean, helps mitigate against potential deforestation, see case study on page 20.

* Estimations using USDA and Oil World data.

Helping seeds to germinate under various climate conditions, improving cultivation efficiency

Most agricultural production starts with seed; these need to germinate well to produce a crop. Germination can be impacted by a number of different conditions, resulting in slow, irregular, or very poor germination. With seed priming, we can speed up the germination process and also allow the seed to germinate at suboptimal conditions, for example, in warm temperatures.

One of the best examples of the benefits of seed priming is lettuce seed. Lettuce seed will hardly germinate at higher temperatures. However, after the seed is primed, the temperature range in which lettuce seeds germinate is increased by up to 10°C. This allows crops to be grown in regions of the world that otherwise would not be suitable, helping agriculture react to a changing climate. It also can increase the yield potential of land by increasing the flexibility and extending the planting season.



Vaccine science



“
We are part of a critical industry during the COVID-19 pandemic and our smart science is found in many items needed to help prevent, control and treat COVID-19.”



Watch
Smart science in action
www.croda.com

In our response to COVID-19 we lived up to our Purpose of using Smart science to improve lives™ providing ingredients for life-saving technologies that prevent, control and treat the virus.

The development of a COVID-19 vaccine required intense collaboration across the pharmaceutical supply chain. Throughout the pandemic we worked closely with companies and universities developing vaccines, supporting them throughout the development phase as well as during clinical trials and scale-up processes. To play our part we shared our science, including new and extended data sets, with research institutions as they worked to understand how a vaccine for the virus might be developed. We also gifted our leading saponin vaccine adjuvants and

other components to teams working on vaccine development across the world.

Our speciality excipients, lipids and adjuvants have now been formulated as critical components in COVID-19 vaccines that have been approved for use by regulatory authorities. This support and the new technologies required for some of these vaccines were developed through exceptional collaboration between the vaccine development teams, our Health Care acquisitions of Biosector (now Croda Denmark) and Avanti and sites across Croda. These cross-functional teams, with our partners, worked at high speed to refine the complex processes involved in achieving the volumes and purity required for the vaccines as they became approved for use.

These successes will help us reach our target for supporting the immunisation agenda of the World Health Organization (WHO), where we want to contribute to the successful development and commercialisation of at least 25% of the pipeline vaccines listed by the WHO.

In addition to much needed vaccines, the outbreak of COVID-19 resulted in huge demand for hand sanitiser, used to minimise the spread of the virus. Glycerine became a much sought-after ingredient as it helps to protect hands from the drying effects of other sanitiser ingredients, such as alcohol. With hand sanitiser in short supply, we supported our customers in their manufacture of this critical item by gifting enough glycerine to manufacture five million* bottles.

* Five million bottles assumes 250ml bottles with a 2% glycerine content.



People Positive

We will apply our innovation to increase our positive impact on society. We are improving the lives of our own employees and people around the world by developing ingredients to improve health and wellbeing as well as encouraging and promoting diversity.

Highlights

50 million

equivalent doses* of our excipient components provided to support the roll out of the Pfizer-BioNTech COVID-19 vaccine (p22)



investment and commercial partnership signed in 2020, bringing novel sunscreens to market to help protect more people from skin cancer

Croda Foundation

formally incorporated as a legal entity

£200,000

gifted in Acts of Kindness

People Positive by 2030

Objectives

Health & Wellbeing:

We will use our smart science to promote healthy lives and wellbeing through the development and application of our ingredients and technologies.

Gender Balance:

We will achieve gender balance in our business by focusing on recruitment and development opportunities to increase the number of women in leadership positions.

Improving More Lives:

We will promote our smart science and help improve more lives using our technologies within relevant communities, where our science can make a positive difference. We aim to create STEM educational opportunities and provide basic necessities through the use and application of our ingredients.

Targets

- By 2030, we will contribute to the successful development and commercialisation of 25% of WHO-listed pipeline vaccines
- By 2030, we will protect at least 60 million people annually from potentially developing skin cancer from harmful UV rays, through the use of our sun care ingredients

- By 2030, we will achieve gender balance across the leadership roles in our organisation

- We will establish and fund a Croda Foundation to help improve one million lives in relevant communities

Milestones

- By the end of 2024 our technology will be part of at least 10 clinical phase III trials across at least 25% of the WHO-listed pipeline vaccines
- By the end of 2024 we will protect one million lives from skin cancer through the use of novel sun protection technologies

- We are rolling out gender-balanced shortlisting recruitment across Croda, with a target of having 80% of shortlists gender balanced by the end of 2023

- Intermediate milestones for the Croda Foundation to be set during 2021

2020 progress

- Further engagement with project teams around the world developing vaccines

- Roadmap to deliver our 2030 objective developed
- Two technology partnerships formed with Entekno and Anomera

- 19% increase in the number of women in leadership roles
- 40% increase in the number of women in direct production roles since 2018, with our first female production operators recruited in North America

- Croda Foundation formally incorporated as a legal entity
- Recruitment of an independent, experienced, Director for the foundation completed

SDGs



SDG 3.3
SDG 3.4



SDG 5.5



* According to Pfizer, November 20 2020.

Health & Wellbeing



SDG Targets:
3.3 and 3.4

Preventing skin cancer

Skin cancer is the world's most common cancer. Over the last decade the annual cases of melanoma, the deadliest form of skin cancer, have increased by nearly 50% to over 287,000; there are more than 60,000 melanoma related deaths each year.¹ Adding these figures to the current incidence and mortality rates for non-melanoma skin cancers, we can see why dermatologists believe skin cancer should now be seen as a global epidemic.

During 2020, our Beauty Effects business developed a roadmap for achieving our 2030 target – to help 60 million people annually protect themselves from skin cancer, see figure 2.

Throughout 2020 many activities were progressed to align to this roadmap. These have included:

- A focus on sensory properties, textural and visual, for example non-whitening
- Creating actives and formulations that are suitable for all skin tones, and formulation textures that are acceptable globally
- Broad spectrum protection, looking beyond UV and sunscreens with pollution protection
- Clean solar protection. This is part of the clean beauty movement, products that consider both human and environmental health, and mostly contain naturally derived mineral sunscreens

Figure 2: Solar protection roadmap to 2030

To protect 60m people from the risk of skin cancer due to over exposure to UV light, through the use of our solar protection ingredients.



2020 2030

Note the colour intensity across each bar: some drivers are expected to contribute from the beginning of the period while some will take time to develop

September 2020 saw our Personal Care team host our first Digital Sustainability Conference (see case study). This opportunity saw us aligning our People Positive Commitment with our customers and the wider personal care industry by educating and informing attendees about solar protection, and the growing need for its inclusion in personal care products.

During 2020 we also started Life Cycle Assessments of our inorganic sunscreen technologies. This work is providing a focus for our new product innovation and technology partnerships, helping us identify gaps in our current product offering. From this work we have already entered partnerships with Entekno (see case study) and Anomera. Anomera offer novel, patented, cellulose technology developed from the by-products of the Canadian forestry industry that provides a biodegradable alternative to current sun protection technologies.



Digital Sustainability Conference by Personal Care


Partnerships are key to ensuring we meet our stretching sustainability commitment. As part of this collaboration, we were joined by specialists from across the personal care industry at our Digital Sustainability Conference, holding conversations on steps and changes needed to implement, execute, and accelerate a shared commitment to a more sustainable future for the industry.

Several topic areas were covered throughout the conference, including **Sustainability at the Core**, where we explored the difference our Life Cycle Assessment work has on the ingredients we make and the end products containing them, aligned with the UN Sustainable Development Goals. Using current examples as well as discussing anticipated sustainability trends, we focused on the **sustainability-based consumer demands** that are driving industry innovations, such as clean beauty and waterless formulations.

Regulatory compliance is critical to maintain consumer confidence in the performance and safety of personal care products, so we invited industry experts to explain how to navigate the current regulatory landscape, as well as how certifications can enhance consumer appeal and offer novel opportunities for sustainable innovation.

“Clean Sunscreens” were highlighted with our formulators from around the world leading discussions on **sustainable formulating strategies**. This included minimising INCI lists and optimising product performance. We also covered **sustainable sourcing**, an essential area for the personal care industry to make a truly positive impact, through ingredient transparency and ethical sourcing.

An on-demand version of the conference is available at www.crodapersonalcare.com/sustainability-conference.



During 2020 we entered a new Smart Partnership with Entekno Materials, an innovative Turkish company that invented MicNo™. Entekno was founded in 2008 by the technology inventor, Professor Ender Suvaci, in the university town of Eskisehir in north-western Turkey.

Zinc oxide's solar protection properties are well understood, but its use is limited in some applications due to the issue of 'whitening'. MicNo provides zinc oxide's outstanding protection offered with greatly reduced whitening effects, opening up new possibilities for personal care applications.

As part of our Smart Partnership, during 2020 we became a minority investor in the company as well as their exclusive route to market for this new technology for the personal care industry. We are also sharing our smart science as Entekno's research and development partner.

Ender and his capable team have grown the business to commercial scale. Through our partnership and R&D support, we can provide better access to customers around the world and help protect more lives.

1. 2020 Melanoma Skin Cancer Report, The Global Coalition for Melanoma Patient Advocacy and Euromelanoma.

Smart science in vaccine developments

Much of the world's vaccine expertise was focused on COVID-19 during 2020, and we knew early on that our smart science could help accelerate vaccine development. Our novel drug delivery excipients, which leverage the expertise of the Avanti business we acquired in August, are a critical component of the mRNA vaccine produced by Pfizer-BioNTech, the first COVID-19 vaccine to get regulatory approval. Ensuring we meet the demands of this amazing work, 2020 has seen significant and rapid investments at manufacturing sites so we can meet the scale and delivery requirements of these important components.

Alongside this work, we have continued to increase engagement with teams researching many of the WHO-listed pipeline vaccines including HIV and malaria (see OptiMalVax case study). Our adjuvant technology is included in several vaccine candidates that are in clinical trials in 2020 (phases I to III). These trials are across several of the priority WHO-listed diseases, taking us a step closer to our target of supporting vaccine development for 25% of WHO listed pipeline vaccines.

Our target milestone for 2024 is to ensure our technology will be part of at least 10 clinical phase III trials for at least 25% of the WHO listed pipeline vaccines. Despite the acceleration of the vaccine development cycle driven by the critical requirements to develop a vaccine for COVID-19, the ongoing 'baseline' for current clinical trials across the WHO priority diseases is currently in low single figures. For our products to be included in 10 clinical trials during 2024 sets us a significant challenge for the next few years.



OptiMalVax, preventing half a million deaths each year from malaria

The OptiMalVax programme is a vaccine project focused on malaria funded by the European Union as part of its Horizon 2020 Programme. Coordinated by the Jenner Institute at the University of Oxford, the objective of the programme is to develop a highly efficacious malaria vaccine, targeting the disease-causing parasite *plasmodium falciparum*. It is estimated that this vaccine could help prevent around 500,000 deaths annually.

Through our longstanding relationship and collaboration with the Vaccine Formulation Research Institute, we were able to supply adjuvants for the initial vaccine screening programmes. These adjuvants were selected as the preferred option for the project. As part of this vital work, we have supplied samples for formulation development and are eagerly awaiting progression to clinical trials.

Our work with the Vaccine Formulation Research Institute has given us the opportunity to collaborate on a number of vaccine projects, offering scientific consultancy on adjuvants as well as delivery of samples.

Avanti acquisition

In August we acquired Avanti Polar Lipids Inc., an industry leader in drug delivery technologies based in Alabama, North America. Avanti creates and makes proprietary polar lipids. These lipids are fats, oils and waxes that are common in many biological systems. They are increasingly used as drug delivery systems as they provide the targeted, controlled and extended release of active pharmaceutical ingredients.

“

We are delighted to be playing a critical role in the scale-up of the Pfizer-BioNTech COVID-19 vaccine. It's an exciting moment in the development of lipid drug delivery systems for next generation pharmaceuticals. It's also a great example of the benefits of Avanti and Croda coming together.”

Steve Burgess

Chief Scientific Officer, Avanti Polar Lipids

Gender Balance



Our target to achieve gender balance across our leadership roles by 2030 is at the heart of our values at Croda. One of our key actions in achieving gender balance is to have balanced shortlists in internal and external recruitment. Our area of greatest gender imbalance is the number of women working in direct manufacturing operations. Through balanced shortlists, and an improved focus on how we recruit in these areas, we have already seen progress; in the last two years we have increased the number of women in direct production roles by 40% with the first female operators being welcomed at both our Mill Hall and Atlas Point manufacturing sites, in North America. In addition, since the end of 2019, we have increased the number of women in leadership roles by 19%, supporting our target of doubling the number of women leaders by 2025.



Race diversity

2020 has been the year where Diversity and Inclusion (D&I) discussions have been at forefront across the world and within Croda. The issue of racism was highlighted earlier this year when disturbing events in North America reverberated around the world. Responding to this, our D&I Steering Committee asked everyone to complete an online unconscious bias training course. In addition, Farahdia Edouard, North American regional representative for the D&I Steering Committee, was welcomed by Steve Foots, Chief Executive and our D&I Steering Committee to present on the importance of race diversity in organisations.

In North America, Farahdia has been raising awareness of global D&I initiatives and engaging with employees on important issues within D&I. As part of this, Farahdia recorded a podcast with Richard Butler, Managing Director, Beauty Formulations, on the subject of "Privilege", available globally. Through the newly formed North American regional Diversity, Equality & Inclusion (DE&I) team, she is also helping to identify and address the gaps in the region when it comes to DE&I.

“We all have a role to play in ensuring that diversity, equality, and inclusion are firmly embedded within Croda, not only because it is essential to our bottom line and the long term sustainability of the Company, but also because it is the right thing to do if we truly want to be committed to being People Positive.”

Farahdia Edouard

North American regional representative for the D&I Steering Committee

Diversity and inclusion

During 2020 we have been focusing activity on a number of specific areas. This has included establishing regional subsets of our existing Diversity and Inclusion (D&I) Committee to ensure a focus on D&I activity that is relevant and specific to each region.

To further D&I understanding across Croda, during 2020 we developed a specific D&I intranet site. This rich source of information gives employees access to D&I topics including Company policies, access to training and awareness programmes, as well as providing updates on Company activity. In addition, members of the D&I Committee and other leaders from around the business have recorded a series of podcasts on a range of related topics aimed at raising the level of debate and increasing the number of discussions about D&I.

Training has also been an important part of raising awareness of this topic and this year we launched online unconscious bias training, completed by over 2,500 employees during 2020. We also created a playlist of other online D&I programmes, many translated into a variety of languages; so far over 3,200 of these modules have been completed.

Throughout the year we welcomed external guest speakers to help further knowledge and understanding of this topic, these included:

- Interactive, live webinars focusing on the power of inclusion and how organisations can create or remove barriers to inclusion (see case study).
- Masterclasses led by John Amaechi OBE an organisational psychologist, author and public speaker. These webinars provided our Board and Executive Committee the chance to learn about the nature of prejudice, understanding expressions of institutional and individual racism, bridging the gap between 'not racist' and 'anti-racist', as well as providing the opportunity to reflect on their role as leaders in bringing about change.

In September, we published Flexible Working guidance aimed at making our workplaces more inclusive and to help everyone give their best. During 2021, this guidance will be implemented as policy in each country and

provides a framework to expand flexible working including home working, flexible start and finish times, and implementing a 'dress for your day' policy.

Finally, we are working to ensure we have sufficient data to make good decisions about D&I and to track progress. We have created people dashboards that are published quarterly to our Executive Committee, Board and regional leaders, providing trend data in a range of areas including balanced shortlists, turnover, gender balance by grade and region, as well as a summary of wellbeing and inclusion activities.



D&I Webinar

In August, our European region ran a live, interactive webinar discussing the power of inclusion, and how organisations can create or remove barriers to inclusion. Attendees heard from our guest speaker about the many ways individuals can be excluded. The webinar provoked many questions and discussions that continued long after the webinar had concluded. In fact, there were so many questions on the day, that two follow-up question and answer sessions were hosted.

Christopher Bannister-Bailey, Croda Diversity and Inclusion Manager said after the event:

“Diversity as a topic is very broad and can be quite complex. Our webinar sparked great conversations and enabled our employees to explore their own experiences and their own understanding of the experiences of others. It is this sharing of lived experiences that really unlocks inclusivity within teams: a key part of our values to work together and have open communication.”

Improving More Lives



Helping our local communities

We are committed to supporting and engaging with the communities in which we operate. In 2020 our employees donated 1,392 hours of 1% Club time volunteering within their local communities, with 24% of this spent on STEM activities, encouraging the next generation to consider roles in science, engineering, technology and mathematics (see case study p28).

Acts of Kindness

During 2020, we supported the communities located close to our major sites that were facing hardship as a result of the pandemic. To do this, we launched our Acts of Kindness initiative, giving £10,000 to each of our largest manufacturing sites globally to support their local communities. By giving the money at site level, we wanted to involve as many of our employees as possible, giving them a chance to 'feel good about doing good'.

The money was spent in a variety of different ways. Some locations donated hand sanitiser and cleaning items for local hospitals and care homes. PPE was provided to local hospitals, first responders, and care homes. Medical equipment was also donated, including, in one case, a heart monitor.

Some communities were given food and care packages, and contributions were made to food banks. Tablet PCs were provided to care homes to enable residents to keep in touch with family and craft items and flowers were given to bring cheer to residents. Donations of toys and play equipment were also made to nurseries who were looking after the children of key workers. Our Hull site even supported a local educational aquarium, closed to visitors due to lockdown, by donating fish food.



Through our Acts of Kindness initiative, we supported communities close to our manufacturing sites during COVID-19.



Croda India Kamothe school adoption project

From our manufacturing site in Thane near Mumbai, Croda India has operated a community support team, "Prayas", for many years. The team is made up of volunteers who contribute to various community projects. One of the team's most significant recent projects has been the "adoption" of Kamothe state school. Through this established link with the school the team has contributed to a number of projects in 2020 including:

Access to drinking water

Due to its location, the school has struggled with continual access to drinking water. Our Croda team has helped re-develop the sports ground to include rainwater harvesting, with underground irrigation technology purifying and then diverting the rainwater to a well located at the school.

Infrastructure upgrade

Over the year we have helped with the development of washrooms, kitchen, classrooms, a modern science lab and library as well as general painting. With the effort of our team at Croda India, there has been significant improvement in the school. This improvement has led to the school being awarded "Best school" among 5,000 schools in the Raigad District by the Education Committee of Maharashtra state.



Croda Foundation

We feel that to maximise our contribution to the SDGs we need to do even more with our smart science and have set ourselves the target of establishing and funding a Croda Foundation, to act as a philanthropic enterprise to support projects in relevant communities.

The foundation will be an independent charitable trust, based in the UK but with a global reach, run and administered by an independent Board of Trustees. It will be solely funded by Croda and have a small number of dedicated employees.

A group of our future business leaders were tasked with defining what the Croda Foundation will look like and clarifying the project selection criteria. This work has been finalised and, in 2020, the Croda Foundation was formally incorporated as a legal entity with approved articles of association.

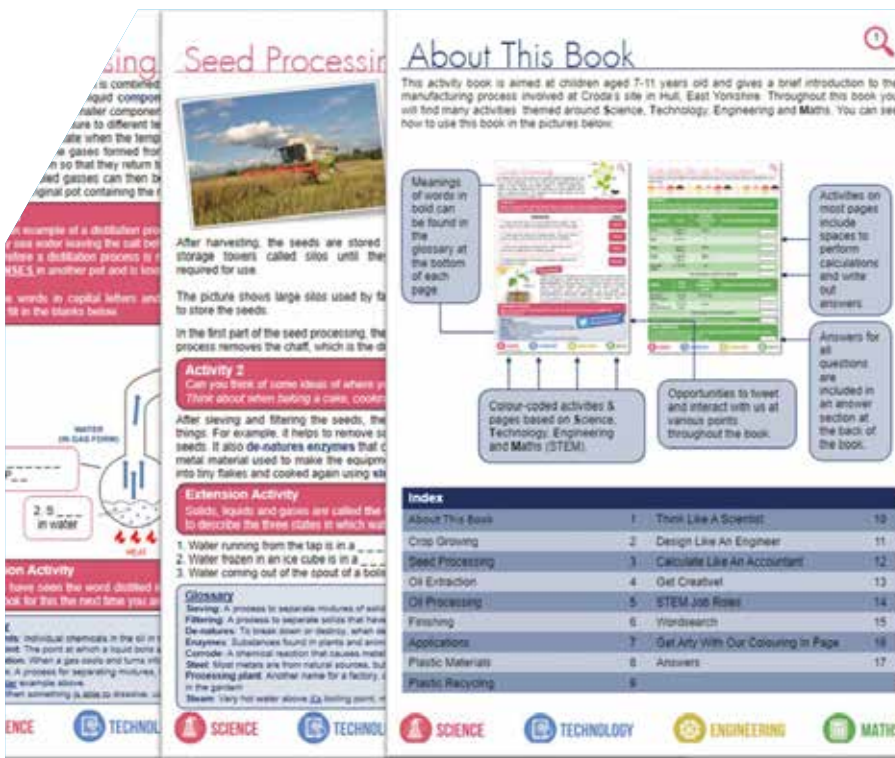
During the year we also identified the goal of the foundation: to improve at least one million lives by 2030, through the support of meaningful projects. These projects will be submitted and sponsored by our colleagues,

prioritising opportunities in relevant communities where we operate and will promote our smart science and help improve more lives. Importantly, the Croda Foundation is additional to, and separate from, our existing community work such as 1% Club, Acts of Kindness and STEM activities. These will continue to be supported locally and run alongside the foundation.

We are very pleased that, in addition to the Croda Foundation being formally incorporated as a legal entity, during 2020 Nigel Turner, formerly a Non-Executive Director at Croda, agreed to chair the foundation Board of Trustees. We have also recruited Rommel Moseley as independent Executive Director for the Croda Foundation, bringing a wealth of experience in running independent charitable foundations.

During 2021 we plan to fully launch the foundation – finalising governance by completing the Board of Trustees; organising funding, which will be solely from Croda; gaining charitable status from the UK Charities Commission; engaging our employees to encourage submission and sponsorship of project ideas; and then commencing our first funded projects.

“
During the year we also identified the goal of the foundation: to improve at least one million lives by 2030.”



STEM goes digital

As many countries went into lockdown due to the COVID-19 pandemic, schools across the world closed and children began learning in new ways. During this time, our UK STEM team used social media platforms such as Twitter, LinkedIn and YouTube to engage with schools and parents, providing STEM learning resources to support schools and families during this difficult time. Content was also posted internally on Yammer to support Croda colleagues with home schooling.

Members of the STEM team, and others from around the business, contributed to ideas for short STEM activities and worksheets. These focused on the science of some of our key business areas including Energy Technologies, Health Care and sun care. The team created videos to show how easy and fun STEM experiments can be done using items from around the home.



We believe that supporting STEM for school-aged children is vital to encourage the scientists of tomorrow.

Health and Wellbeing during COVID-19



“
In the meantime,
keep safe,
prioritise looking
after yourself and
loved ones – your
physical, mental
and emotional
health is far more
important than
anything else
right now.”

Steve Foots
CEO



Watch
Smart science in action
www.croda.com

The statement to the left was the sign-off used by Steve Foots, CEO in one of the many company-wide updates he sent throughout the pandemic. This epitomises our attitude towards the importance of the health and wellbeing of our employees throughout the COVID-19 pandemic and beyond. The pandemic meant that we had to swiftly respond to changing needs to keep employees safe whilst working and continuing to manufacture our ingredients, many of which were used in items critical to combating the pandemic.

It wasn't just our CEO who gave regular updates, leaders in all our regions held town halls, recorded videos and sent out written communications. We also published short pulse surveys to provide employees with a way of giving anonymous feedback about how they were feeling and provide their perspective about how the Company was managing the crisis. Local managers also encouraged feedback and maintained contact with employees working remotely through online quizzes, virtual coffee breaks and even digital cocktail hours.

Early in the pandemic, we assured all employees that there were no plans to reduce employee numbers or reduce regular salary and benefits as a result of COVID-19. We understood some employees needed to

balance caring responsibilities and work, so we encouraged people to work flexibly. For those employees working onsite, we focused on making life as easy and as safe as possible, with remote handovers, provision of PPE including hand sanitiser, and training in new procedures to keep everyone safe.

We also worked to support employees in other ways, with mental health a key focus. In March our manufacturing site at Chocques, France, arranged for a hairdresser to visit site, giving employees a huge morale boost. We arranged for external specialists to support employee mental health and wellbeing through educational webinars and training sessions. Where employees, especially those working shifts, reported that they were struggling to access food essentials, which were in short supply at points during the first wave of the pandemic, we arranged for food and cleaning items to be available to them for home use.

We continued to operate as close to normal as possible throughout the pandemic. The support we gave employees was to help them do the best they could under such difficult circumstances.



Fundamentals

Our social licence to operate is built on trust and is the foundation of everything we do. We consider all stakeholders in our ecosystem and strive to adopt best practices in environment, labour and human rights, ethics and sustainable procurement.

Highlights

0.54

OSHA total recordable injury rate*

9.7%

reduction in total water consumption since 2018



FAIRWAGE NETWORK

Partnered with the Fair Wage Network and assessment underway globally



We achieved a Platinum medal in EcoVadis, confirming our position in the top 1% of all companies assessed by EcoVadis in our industry

Fundamentals by 2030

Objectives

Health, Safety & Wellbeing:

We will protect the health, safety, and wellbeing at work of all of our people and contractors.

Process Safety:

We will protect the health and safety of all of our people, contractors and the communities in which we operate.

Environmental Stewardship:

We will protect the natural environment through the responsible management of our water consumption and waste production.

Fair Income:

We will contribute to sustainable and inclusive economic growth by ensuring that everyone working at Croda sites receives a fair income.

Targets

- OSHA Total Recordable Injury Rate in the top 10% for the chemical industry
- 30% increase in positive responses to the wellbeing areas in our Global Employee Culture Survey
- Zero significant process safety incidents per year
- We will continue to investigate and apply learnings from minor incidents and near misses

- Reduce our water use impact by 50% from our 2018 baseline

- Everyone working at Croda locations, including temporary and permanent employees, and all contractors will receive a living wage that is monitored and reviewed annually

Milestones

- Achieve OSHA Total Recordable Injury Rate of 0.3 by the end of 2024
- Conduct an independent peer review of our Process Risk Reviews (PRR) for high-hazard processes by the end of 2023
- Develop reporting capability against SASB process safety indicators by the end of 2021
- Develop and implement a methodology for water impact assessment by the end of 2021
- Reduce our water use impact by 25% from 2018 baseline by the end of 2024
- Eliminate process waste to landfill across our operations by the end of 2024
- All employees temporary and permanent will be paid a living wage by the end of 2022
- All regularly employed contractors will be paid a living wage by end of 2024

2020 progress

- OSHA Total Recordable Injury Rate of 0.54*
- Five percentage point improvement to wellbeing questions compared to 2017
- A notice of violations was received relating to air permitting on the ethylene oxide plant at Atlas Point. Operation was ceased immediately pending corrective action
- 17 (out of 40) PRRs for high-hazard processes have been peer reviewed
- An operational error resulted in our Mill Hall site receiving a notice of violation for non-compliance with its effluent discharge permit, which impacted the municipal wastewater treatment plant
- Water impact methodology developed
- Reduction in total water withdrawal by 9.7% compared to 2018 baseline
- 11 out of our 19 principal sites now have zero process waste to landfill
- Partnered with the Fair Wage Network (FWN)
- Assessment of our pay against FWN targets is underway

SDGs

- 

SDG 3.4
SDG 3.9
- 

SDG 8.8
- 

SDG 3.9
- 

SDG 8.8
- 

SDG 6.3
SDG 6.4
- 

SDG 12.5
- 

SDG 8.5

* excluding acquisitions and COVID-19.

Objectives

Supplier Partnership:

We will ensure that all our key suppliers are operating safely, ethically and responsibly, and will promote the equitable sharing of benefits within the supply chain.

Knowledge Management:

We will manage our intellectual capital, ensuring employees acquire the knowledge and skills needed to promote the sustainable development of our business and promote lifelong learning opportunities for all.

Quality Assurance:

We will maximise our resource efficiency and minimise all types of waste energy, water and materials across our operations.

Product Stewardship:

We will take a leadership role in life cycle assessment of our ingredients and their impact on the life cycle of our customers' products. This will help the markets in which we operate move towards more circular economies and reduce consumer and employee exposure to chemical hazards.

Responsible Business:

We will verify and maintain our position as the most sustainable supplier of innovative ingredients within our industry.

Targets

- Ensure all key suppliers are responding to EcoVadis and engaging with us to improve practices

- Target to be finalised during 2021

- Achieve a 99.5% Right First Time (RFT) rate

- Full life cycle assessments (LCAs) for our top 100 ingredients

- Achieve outstanding CSR performance ratings across all themes within the EcoVadis assessment

Milestones

- By the end of 2024, all key suppliers will be required to achieve a minimum of the average score from EcoVadis (or equivalent) or will have an action plan with timelines to close gaps
- By the end of 2024, key suppliers representing at least 50% of our raw material volumes will be required to sign up publicly to SBTi or equivalent carbon reduction targets
- By the end of 2024, suppliers of crop-based raw materials will be required to provide supply chain transparency in a fully traceable and certified sustainable manner
- 100% of employees will receive a minimum of one week's training per year by the end of 2025

- Achieve a 99.0% RFT rate by the end of 2024

- Finalise our LCA methodology with external input and verification by the end of 2021
- Complete 40 LCAs by the end of 2024

- Achieve an EcoVadis score of at least 85 by end 2023

2020 progress

- 199 suppliers representing 50% of our spend have been evaluated by EcoVadis
- We exited 2020 with 85% of our palm derivatives RSPO certified and will achieve 100% in 2021
- We reviewed, updated, and issued our Supplier Code of Conduct

- Over 2,000 online training courses added to our learning management system and 22,000 individual courses were completed
- Over 250 managers trained on our Commitment
- An automated and robust process for measuring training hours is being rolled out globally

- Global initiative launched
- Business Director appointed
- One percentage point improvement achieved

- Product Stewardship working group established to define our LCA methodology
- Sustainability Impact Assessment developed to identify candidate products for full LCA

- Achieved Platinum EcoVadis sustainability recognition level, putting us in the top 1% in our sector

SDGs



SDG 12.6
SDG 12.7



SDG 4.3



SDG 12.2
SDG 12.5



SDG 3.9



SDG 12.2



SDG 14.1



Health, Safety & Wellbeing



Health and Safety

It is a core principle at Croda that all employees should expect to return home at the end of their working day without having been harmed in the workplace. Five years ago, we set an OSHA total recordable injury rate (TRIR) target to be in the top quartile of chemical manufacturing companies – a measurable improvement towards our ultimate aim of zero harm at work. This would require improving from 0.8 recordable injuries per 200,000 hours worked to below 0.6 and, importantly, would result in a 25% reduction in work-related cases. On a like-for-like basis our target was achieved a year early and was maintained this year, demonstrating the underlying positive trend resulting from our focused attention in this very important area of our business. Last year we launched our 2030 Commitment in which we set a new target to have a total recordable injury rate in the top decile of the chemical industry and in this report, we are committing to achieve an interim milestone of 0.3 TRIR by the end of 2024.

As a recognised critical industry in all countries in which we operate, we worked tirelessly this year to adapt to the changing regulatory guidance and to share best practice across the Group to provide COVID-secure workplaces for those of our employees who were not able to work from home. We did experience a small number of possible work-related infections and, although somewhat subjective in causation, nevertheless reported them to the relevant authorities and added them to our TRIR statistics.

The Group made several acquisitions during the last five years, most notably in 2020, and generally these companies all had TRIRs above the Group average. This, together with the possible work-related COVID-19 cases resets our headline TRIR to 0.86 as we enter 2021 with an aim of reducing this to 0.3 by the end of 2024.

Launch of the revised Croda Safety, Health and Environment Behaviour Standard

This year we revised and upgraded our behavioural standard to be complementary to our Purpose, Commitment and Difference. The standard was originally based on the work of organisational psychologists at the Keil Centre, and following this revision, now reinforces our values of ‘Responsible’, ‘Innovative’ and ‘Together’ by using the same vocabulary. It describes the safety, health and environmental behaviours expected of all employees at all levels in the organisation and gives examples of good and bad behaviours, providing a

simple and practical guide for all. With a particular focus on leadership, the standard was first introduced to the top 50 managers in the Company with a requirement for them to cascade to all employees and have meaningful discussions aimed at securing their commitment to improve.

Lindalu Bartsch, Managing Director Croda Latin America said: “It helps all employees in the organisation to have high standards for safety and creates the conscience for each employee, showing how important it is for everyone. I think it is key for a good organisation that the leadership takes this subject as fundamental, as it is at Croda. Now employees take better care of themselves and warn other people if they see an unsafe behaviour.”

Safety, Health and Environment Leadership programme for new acquisitions

It is Group policy that all locations comply with national legal requirements as an absolute minimum, but in addition, strive to comply with our own demanding internal standards. The Group has made several acquisitions in recent years where, more often than not, the acquired companies fall short of these internal standards, particularly in relation to safety performance. This year we introduced a specific training programme for the leadership teams of those acquired companies.

We recognise that as a Company with operations throughout the world, it is easy for leaders at sites to feel isolated from their peers and from the central organisation. This is particularly true of newly acquired sites who are often going through significant change, detaching themselves from previous owners whilst integrating into Croda which has different expectations. The programme is therefore designed to make these expectations very clear as well as helping to implement a robust management system for continual

The SHE Behaviour Standard

Theme	Everyone	First line manager	Managers	Senior leaders
Standards	Show that you care	Ensure standards maintained	Set high standards	Set the vision
Communication	Speak up	Encourage the team	Communicate openly	Provide clarity
Risk management	Be mindful	Promote risk awareness	Confront risk	Manage risk
Involvement	Get involved	Involve the team	Involve the workforce	Engage the organisation

Our revised Safety, Health and Environment Behaviour Standard.



“ I am proud to be part of this programme and I can easily mention that the main advantage we’ve achieved so far, in my view, is the better alignment between the knowledge of sites by having access to the content and experience sharing. I am confident that this programme will also support new acquisitions and the continuous improvement in this vital area of our company.”

Debora Esperanca

Operations Manager for Incotec, Holambra, Brazil

improvement such as changes to equipment, procedures, and training provision. Participants are encouraged to share their own experiences and critique each other’s efforts, thus building a group support network for best practice sharing.

The programme is now being adapted to help onboarding of future acquisitions and is already being trialled with teams at our most recent acquisitions – Avanti and Iberchem, accelerating their integration into the business and ensuring they meet our SHE performance expectations.

Process Safety



SDG Targets:
3.9 and 8.8

Wellbeing

Protecting and enhancing the mental and physical health of our employees is key to ensuring everyone can give their best, as well as being fundamental to creating and maintaining an inclusive workplace. It underpins our values of ‘Together’ and ‘Innovative’, the latter being about creating a fun, lively and stimulating environment in which to work.

In 2020, due partly to the COVID-19 pandemic, all our regions focused on employee mental health. Activities included webinars with psychologists, an increase in the provision of Employee Assistance Programmes, yoga classes and access to the ‘Calm’ app used to aid meditation and sleep. This regional work was supplemented by online training in wellbeing, internally created podcasts and the provision of online information and tips for managing mental health.

Our metric here is to see an improvement in employee satisfaction related to wellbeing questions, through an increase in the percentage of positive responses in employee culture surveys. In 2020, we saw an increase in positive scores of over five percentage points related to our wellbeing questions, compared to scores in 2017.

In September 2020, the ECO plant at Atlas Point in Delaware, North America, received notices from a local regulator following higher than anticipated emissions to air during initial testing of some plant equipment. We immediately suspended operations at the ECO plant while corrective work was undertaken. Further testing took place in January 2021 to determine if the issues were resolved, and we expect to be fully operational in the first half of 2021.

An important component of our process safety assurance programme is the requirement for sites to conduct Process Risk Reviews (PRRs) of all hazardous process at regular intervals. The first five-year cycle of this was completed at the end of 2018 and we are now two years into the next cycle. An added level of assurance is provided by conducting independent reviews of our high-hazard processes and we are on track to complete these by the end of 2023. Next year we will develop the capability to report our process safety performance in accordance with the metrics described in the Sustainability Accounting Standards Board (SASB) accounting standard.

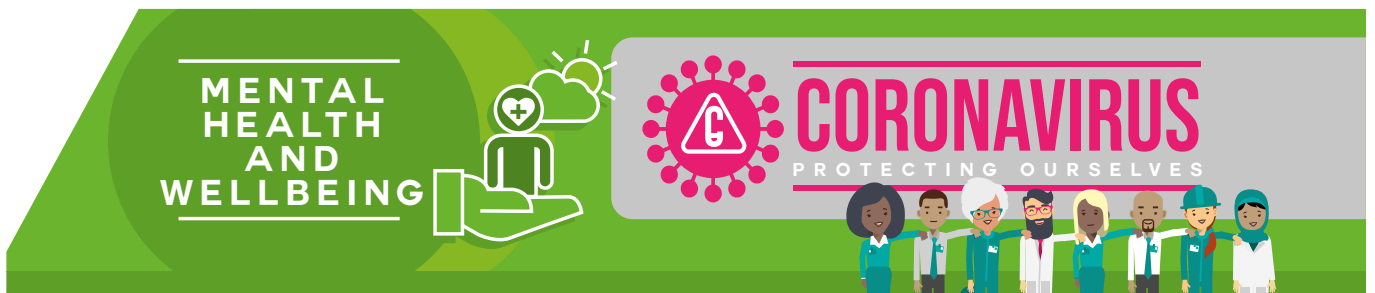
Output of the PRRs is used to provide detailed feedback to the local team with support provided to address immediate and long-term improvements. There has been positive engagement from the site teams with a shift towards self-reflection, driving enhanced critical analysis of the techniques employed and the risk conclusions drawn.

The key findings of these reviews will be used to develop further training and guidance in 2021, supporting our continual improvement in process safety competence.



A lot of hard work goes into completing our PRRs and we want to make sure that they deliver everything our sites need of them. It is great to see positive engagement during the feedback and a real drive from our process safety leaders to enhance the quality of these critical documents. Particular credit should go to the team at Shiga, in Japan, who have worked tirelessly this year, making significant strides, and setting some good practices to be shared with others.”

Zoë Law
Group SHE Specialist



TAKING CARE OF MENTAL WELLBEING IN UNCERTAINTY

When we are faced with uncertainty, our emotional resilience can be tested, particularly when a situation occurs that makes us feel a loss of control, disoriented or exposed. This can impact our mental wellbeing making us feel anxious or worried, and can even lead to more serious mental health problems.

The UK’s Health and Safety Executive identified six key areas that can cause stress in a work setting: relationships, role, demands, support, change and control. Volatile and uncertain situations can affect these key areas, particularly, control and relationships.

In 2020 all our regions focused on employee mental health. This included providing online information and tips for managing mental health during the pandemic.

Environmental Stewardship



SDG Targets:
6.3, 6.4 and 12.5

Water Impact

Our five-year target for a 10% reduction in water consumption by the end of 2020 was achieved, with a 16% reduction against the 2015 baseline figure. Our manufacturing sites at Ditton in the UK and Mevisa in Spain, between them saved over 900,000 m³ water per year following the implementation of water-saving measures. Looking ahead to the next round of strategic reductions we are prioritising our site at Shiga in Japan, where investment is underway to reduce consumption by 70% in 2021 and a further 20% the year after. In addition, the installation of a new boiler will contribute to their decarbonisation strategy.

“
We know that as a large water consumer we have a responsibility to reduce our impact and in doing so will make a significant contribution to the Group’s sustainability agenda.”

Akihisa Okada

Site Director, Shiga, Japan

An operational error resulted in our Mill Hall site receiving a notice of violation for non-compliance with its effluent discharge permit which impacted the municipal wastewater treatment plant. Procedures have since been revised and employees have been retrained to prevent recurrence. Real-time analytical equipment will be installed in 2021 to guard against human error.

It is estimated that over the next few years, two thirds of the world’s population may face water shortages and ecosystems around the world will be stressed even more than they currently are. In response to this we have set a target to halve our water impact by 2030, reducing it by 25% by the end of 2024. This requires us to move beyond simply measuring and reducing total water use and to conduct in-depth studies of the impact our activities have, helping us prioritise the action we must take to safeguard this precious resource. We are, therefore, developing a methodology that takes a holistic approach and incorporates considerations such as water quality, displacement effects, and water stress projections at an individual location basis.



The team at Shiga, Japan, who are working to reduce water consumption of the site by 70% in 2021.

During 2020, we worked with Sabrina Ledke, an MSc student at the University of York in the UK, to develop our water impact methodology. In 2020 we used one of our UK manufacturing sites as a case study and this work will continue over the next year with the aim of being able to report against a defined water impact metric by the end of 2021.

“
Getting an idea about how manufacturing activities impact the aquatic environment is a crucial step towards climate action. It’s fabulous to see Croda aiming to reduce their water usage impact and developing a sophisticated metric.”

Sabrina Ledke

MSc student at the University of York

Waste to landfill

We achieved our waste to landfill target ahead of schedule. 2020 has seen us continue to make progress in our aim to eliminate process waste to landfill from our operations by the end of 2024. Our continued progress has been due to some exceptional work from two of our UK sites, Hull and Rawcliffe Bridge, which both reduced their waste to landfill by 95%. This was achieved by working with regulators to ensure waste is categorised appropriately, reviewing, and updating current waste management practices, as well as placing residue streams into recycling routes such as biofuel and fertiliser. The small amount of waste that is not able to be repurposed or reduced, is segregated to ensure easier recycling.

During 2020 our colleagues in North America engaged with PAR-Recycle Works, a non-profit electronics recycler that provides transitional employment to people released from prison, helping participants integrate back into society and lowering the likelihood of reoffending through stable income and work. Paul Petrella, Regional IT Manager, coordinated the donation of 2.5 tonnes of redundant IT equipment. “Working with my team and the SHE department onsite we knew we had a large quantity of used electronic equipment and were hoping to find a solution that turned this into a benefit. PAR-Recycle Works was a perfect fit in helping us reach this goal.”

Fair Income



SDG Target:
8.5

In 2018, we were proud to be accredited as a UK Living Wage Employer by the Living Wage Foundation. Having gained accreditation in the UK, we have now set the ambitious target to pay our employees a living wage at all locations globally, going beyond the legal minimums and ensuring that we can provide an appropriate standard of living for all of our employees.

To support the delivery of this global ambition, we have agreed a partnership with the Fair Wage Network who provide an independent and economically rigorous methodology to assess living wage levels across the world. Using this database, we are now in the process of comparing our wage levels to living wage comparators provided by the network. Once the assessment is complete, any necessary adjustments to pay will be made to ensure we meet our goal that all employees will be paid a living wage by end of 2022.



FAIRWAGE
NETWORK

Knowledge Management



SDG Target:
4.3

As a business that relies on innovation and intellectual capital for its continued success, the ability to retain knowledge within the Company and pass it on to new employees is vital. Like many in our industry, we previously relied on the passion and deep expertise of individuals to drive our innovation. However, to satisfy increasingly complex needs in a fast-changing environment, we need to ensure that our teams can access and act upon the cumulative knowledge and experience of those that went before them, and also that of our partners from outside Croda, such as customers, suppliers and industry experts. This requires behaviour change through many of our teams as well as new systems to support the capture and rapid retrieval of information, allowing our current experts to add to the considerable intellectual legacy of those who have gone before them.

We have not currently set an ambitious 2030 target for this area; this will be finalised during 2021. In the meantime, our milestone target is to ensure that all employees have a minimum of one week of training per year. This training can take many forms: 'on the job', classroom-based, self-study, online programmes, professional training or participating in mentoring or coaching programmes.

To support this ambition, and in response to the COVID-19 crisis, we significantly increased the number of online training programmes available to our employees, with over 2,000 online training courses added to our learning management system in 2020. The courses, many of which are available in multiple languages, cover a range of topics including personal development, computer skills and leadership. During the year we also moved much of our classroom training to a virtual setting.

“

Having launched our 2030 Commitment in last year's report, we have spent a significant amount of time engaging with employees across the business to help them understand our goals and the contribution that every employee can make towards us achieving them.”

In particular, we have focused on training managers across the Group, enhancing their knowledge on technical topics such as the United Nations Sustainable Development Goals, science-based targets and scope 1, 2 and 3 emissions. Increasing their confidence in these topics ensures they can lead our efforts and make them locally relevant.



In response to the COVID-19 crisis, we significantly increased the number of online training programmes available to our employees.

Quality Assurance



SDG Targets:
12.2 and 12.5

Responsible consumption of resources requires us to do things right first time, every time. Making our products to the right quality first time is not only good for the customer experience, it also eliminates all forms of waste, aligning with the SDG goal to “substantially reduce waste generation through prevention”. Our target here is to achieve a right first time rate of 99.5% by 2030, a class-leading rate for speciality chemicals with a broad product portfolio. We expect to be well on that journey by the middle of the decade with an interim target of 99.0% .

During 2020 we launched our right first time initiative to help reach our ambitious target, creating the position of Business Process Director to coordinate our efforts globally. Each site identified a champion, and this global team is already tackling priority areas by sharing knowhow and best practice.

We recognise the potential of tools such as big data, robotics, analytics, and the Internet of Things to drive manufacturing excellence and contribute significantly to our right first time agenda. This year we have initiated several projects to explore the potential of these tools and then identify how to quickly scale them across the Group. These projects lay the groundwork for digital integration from factory floor through to supply chain and vice versa, with a key output being to improve resource efficiency.

“
The outcome for the year was a huge success with an improvement of one percentage point towards our 2030 goal and notable success stories registered at every participating site. The sustainability benefits have not yet been quantified but will be substantial.”

Hubert Legius

Business Process Director

One example of this is the implementation of Advanced Process Control (APC) on a key production process at our manufacturing site in Hull, UK. A multi-variable model of the process has been built, and, using machine learning, predicts future plant behaviour, adjusting processing parameters accordingly. This real-time optimisation ensures consistent quality, maximum yield, and minimum use of steam, water, and chemicals. Commissioning is well underway with indications that energy savings will make a significant contribution to the site’s decarbonisation programme.

Another example is the use of multivariate data analysis at our site in Mevisa, Spain. Here, advanced analytics is providing meaningful insights from the vast array of manufacturing data, identifying patterns and connections that could not be done manually due to the volume of data points. The team have already seen excellent results from this technique, including reduced cycle times, improved yield, and lower energy consumption.

Our complex chemistries have historically used traditional methods for quality analysis and control, taking samples during manufacture, conducting laboratory analysis, and then adjusting operating parameters. Often this cycle is repeated several times to ensure we meet the tight specifications required by our customers, which can result in delays and sub-optimal resource consumption. A team at our manufacturing site in Gouda, the Netherlands, have approached this problem through innovative process design and by adopting the latest near-infrared analytical capabilities. This enables real-time quality measurement coupled with predictive control, reducing batch cycle times, optimising utility consumption, and eliminating the need to take and destroy samples. Installation is now complete, and validation will take place during 2021 before rolling out to other sites in the Group.



Real-time quality monitoring team at Gouda. From left to right: Jan de Jong, Sophie Wiedemann, Ronald Goes, Thaddeus Anim-Somuah, Kees Plomp, Leon Smit. Henkjan Abbes and Peter Both absent.

Product Stewardship



SDG Targets:
3.9, 12.2 and 14.1

Product Stewardship means going beyond the minimum requirements for compliance. It means building upon the knowledge we gain from regulation and enhancing it with full Life Cycle Assessment (LCA) of our ingredients to fully understand impact beyond our factory gate. It requires a deep understanding of our products from cradle-to-grave and needs complete transparency up and down the supply chain. LCAs help the markets in which we operate move towards more environmentally friendly products through elimination, substitution or reuse as well as identifying opportunities to further reduce the risk of employees and consumers being exposed to chemical hazards. We aim to have completed full LCAs of our top 100 ingredients by 2030, and to have done at least 40 by the end of 2024.

This year we established a Product Stewardship Working Group consisting of internal regulatory and technical experts to progress our LCA work. During 2021 they will be defining a robust and auditable methodology that will identify the data needed to assess our products and help us ensure that the output meets the needs of our customers.

Also during 2020, we developed a sustainability impact assessment (SIA) methodology for product/application combinations. Through this methodology we look at the intrinsic impact of our products, as well as the impact of them in use and at end of life, their extrinsic impact. Products are scored based on how we compare to industry standards, with higher scores given to those that directly contribute to the achievement of our Commitment and that provide additional sustainability benefits not offered by alternative solutions in the market.

Mapping our product groups on an intrinsic versus extrinsic matrix allows us to see where innovation to increase the intrinsic sustainability can have the greatest impact, or where further customer engagement and partnerships may enable us to enhance the sustainability of our product in application. This methodology was first applied to products sold into various applications within our Energy Technologies business.

We plan to use this SIA methodology to screen our product portfolio and help to identify key products as candidates for full LCA over the next decade.

“ This approach helped a multi-functional team to ask questions about our business that we had not previously considered. It drove a deeper understanding of our products, customers, and applications leading to meaningful actions in innovation and portfolio management. The methodology has enabled us to make important progress towards our sustainability goals.”

Graeme Tweddle

Vice President Performance Technologies and Industrial Chemicals

Responsible Business



Responsible Business to Croda means leadership in sustainability and corporate social responsibility: adopting leading practices; being open and transparent in their execution; and being judged and held accountable for our actions by our stakeholders. We use the EcoVadis sustainability rating framework as a measure of our performance and a tool for continual improvement. EcoVadis provide an evaluation of how well a company has integrated the principles of sustainability/CSR into its business and management system. It is built on international sustainability standards, including the Global Reporting Initiative, the United Nations Global Compact, and ISO 26000. The methodology is evidence based and covers assessment against four themes: Environment, Labour and Human Rights, Ethics, and Sustainable Procurement.

We have been assessed by EcoVadis since 2012 when we first achieved a score of 58/100. Since then, we have consistently improved, achieving our highest published score of 83/100 in 2018. In 2019 and 2020 we had points deducted for an ethylene oxide



leak that occurred in 2018 in North America. This was fully reported, and remedial action taken. With the EcoVadis methodology, points deducted remain in place for five years irrespective of all corrective actions.

For 2020, EcoVadis has now assessed over 75,000 companies in 160 countries and across 200 industries. This year we have achieved their new Platinum level award, placing us in the top 1% in our sector, with a score of 75/100. This is a true recognition of sustainability being at the very heart of our Company values and practices. Despite this accolade, we are determined to improve further with a milestone target to reach a score of 85 or higher by the end of 2023 and to score 'outstanding' in all four categories by 2030.

During the early part of 2020 we reviewed our approach to external ESG engagement, conducting an in-depth gap analysis of our performance against a targeted number of ESG ratings agencies and selecting those performance indices that closely align with our corporate strategy and have most relevance to our stakeholders.

Towards the end of the year, we were pleased to receive news of inclusion in the FTSE4Good UK 50 Index.

As we further embed sustainability in the organisation, we have identified the need to move ownership of metrics away from the Group Sustainability team to sit within the relevant business team or functions. This places it in the hands of those best positioned to affect change and drive progress. In support of this, we are implementing new sustainability accounting and reporting software which will provide superior performance tracking, help with ESG disclosures, and provide an easily verifiable audit trail moving forward.

Sustainable Sourcing and Supplier Partnerships



SDG Targets:
12.6 and 12.7

Procurement leadership

We were founded on the principle of using smart science to turn bio-based materials into innovative ingredients that improve lives. Sourcing these materials in a truly sustainable way is a crucial part of what we do and an increasingly important requirement of our customers and consumers alike. Using natural resources brings with it the responsibility to ensure there are no associated negative social or environmental impacts as well as the opportunity to advocate for, and contribute to, positive change. This can only be possible through intimate knowledge of our supply chains, collaboration with all parties in them, and with complete transparency and traceability throughout. In 2020 we recruited a Global Head of Procurement and Sustainable Sourcing, Michelle Fargen. In this senior leadership position, Michelle's remit is to direct and coordinate our activities in this important area and to encourage, influence and assist our suppliers to improve their own

sustainability practices. This is at the very heart of SDG 17, Partnership for Goals where effective collaboration in the supply chain results in a greater positive impact.

Bio-based raw materials

88% of our raw materials are organic (containing carbon) with the remainder being inorganic. The organic materials primarily originate from corn, castor, rapeseed, coconut, and sunflower oils together with palm derivatives. In 2020, the bio-based content of our organic raw materials reached 67%, an all-time high for the Group and a significant move towards our target of 75%.

Supplier engagement and monitoring

We have partnered with EcoVadis as our framework for sustainability monitoring, using their universal scorecard, benchmarks, and performance improvement tools. This monitoring focuses on four areas: environment, labour and human rights, ethics, and sustainable procurement.



The Union for Ethical BioTrade (UEBT) is a non-profit association that promotes sourcing with respect. Their objective is to contribute to a world in which all people and biodiversity thrive through the regeneration of nature, enabling a better future for people through ethical sourcing of ingredients from biodiversity. This year, our beauty actives business Sederma successfully became a fully accredited member of the UEBT and commits to the UEBT's standards to continuously develop and integrate ethical sourcing practices in plant collection areas, respecting traditional know-how, improving the living conditions of local populations, and mastering traceability of raw materials of natural origin.

To date, we have assessments for 199 suppliers representing approximately 50% of our total spend. We will continue to work with our suppliers to gain higher levels of participation in these assessments and to encourage them to address any gaps, significantly increasing our influence in the supply chain.

We recognise the opportunity and responsibility to influence our suppliers to achieve positive sustainability outcomes and are introducing three milestone targets in this year's report with this aim. By the middle of the decade, we expect: key suppliers to achieve an average EcoVadis (or equivalent) score and/or have action plans in place to address gaps; key suppliers representing at least 50% of our raw material volumes to make public commitments to carbon reduction targets; and suppliers of our crop-based raw materials to provide fully certified supply chain transparency.

We reviewed, updated, and issued our Supplier Code of Conduct during 2020, which clearly states our sustainability objectives and fundamental requirements of doing business. It requires acknowledgement and acceptance from all suppliers and is an important tool to develop dialogue with like-minded suppliers who are also making commitments to science-based targets and the SDGs. We are also partnered with CDP Supply Chain to capture environmental reporting from suppliers to measure, monitor and reduce our scope 3 GHG emissions embedded in the raw materials we use. In 2020 we requested emissions data from 103 suppliers, with a 44% response rate.



“

As newly appointed Global Head of Procurement and Sustainable Sourcing I am impressed by the calibre of our existing procurement talent and the strong desire within Croda to ensure a fully sustainable and ethical approach from our supply chains and supplier partners.

“We consider our supply chains to be an integral part of our own operations and our choice of suppliers will be fundamental in helping us achieve our 2030 targets. We did not let the challenges of 2020 distract us from our commitments as we have continued supplier engagements with RSPO Certification, CDP Supply Chain and EcoVadis assessments. This work will continue into 2021 and beyond until we have gained full transparency into all aspects of our supply chains.”

Michelle Fargen

Global Head of Procurement and Sustainable Sourcing



Operating since 2011, Together for Sustainability (TfS), is a joint initiative and global network of companies assessing the environmental, labour and human rights, ethical and sustainable procurement performance of their suppliers. We have followed the progress and growth of TfS which is based on the UN Global Compact and Responsible Care® principles and now includes 29 chemical companies with which our supply chains increasingly interconnect. In 2020 we completed an assessment of membership criteria, including benefit to enhancing our sustainable supply chain metrics, and we shall join TfS early in 2021.

In addition to our own supplier engagements, we seek third-party certifications to validate the sustainability credentials of our suppliers and their raw materials. These partnerships include International Sustainability and Carbon Certification (ISCC), Roundtable on Sustainable Palm Oil (RSPO), USDA BioPreferred®, and the Union for Ethical BioTrade (UEBT).

Sustainable palm derivatives

Our leadership in supporting sustainable palm derivatives is acknowledged widely by customers and suppliers, and in 2020 our transformation to fully RSPO-certified physical supply chains was nearly complete, with just over 85% of our palm derivative volumes certified as we exited 2020. This covers over 100 suppliers and more than 300 raw materials into our 14 RSPO-certified manufacturing sites. Although the conversion was led by our Personal Care sector, the 85% achievement is across all our finished ingredients into all industries. Our joint venture in China, Croda Sipo, consumes four palm derivative raw materials for industrial applications which have not yet been converted but we expect this to be completed during 2021.



ASD
ACTION FOR SUSTAINABLE DERIVATIVES

We are a founder member of Action for Sustainable Derivatives (ASD), a collaborative initiative that promotes responsible sourcing. ASD has accelerated the transformation of the palm derivatives industry towards compliance with 'No Deforestation, No Peat, No Exploitation' (NDPE) principles. Through ASD we work with a third-party consultancy, Transitions, to conduct supplier investigations to ensure full compliance with these principles.

* BioPreferred is a registered trademark of the US Department of Agriculture.



Crodarom's local suppliers of Rosa gallica.

Procurement standards – ISO 20400

Sustainable procurement is the process of making purchasing decisions that meet the organisation's needs for goods and services in a way that benefits the organisation, society as a whole and minimises impact on the environment. It is achieved by ensuring working conditions of suppliers' employees are decent, the products and services purchased are sustainable and that the socio-economic issues, such as inequality and poverty, are addressed.

We are fully committed to ensure alignment with this international standard and aim to conduct a gap analysis across our procurement functions globally during 2021.

Local sourcing

Our botanical extracts are manufactured in the South of France at our Crodarom site in Lozère. Sourcing locally brings a range of benefits such as increased flexibility, enhanced transparency, decreased environmental footprint, simplified communication, and social development. We therefore prioritise utilising French resources where possible and Crodarom has supported the development of local producers since its creation. For example, for almost 20 years, our organic Rosa gallica has been cultivated a few kilometres from our site.

Today, 20 Crodarom products have French certified origin and we expect this to increase as a result of our new collaborations with French farmers who share our ethos. With technical support from the region and local institutions, Crodarom follows new experimental trials to cultivate species with local producers. Five perennial species have been rigorously selected according to their ability to adapt to this terrain.

Upcycling

Upcycling is the transformation of unwanted by-products, surplus or waste from other industries such as food and agriculture, into high-quality products for Personal Care that substitute those made from virgin raw materials. This approach enhances the use of environmental resources, reduces waste and provides social benefits through local supply chains, all important aspects of our business model. Crodarom recently launched our Phytolea™ range of natural derived oils. These are made by pressing the seed or kernel waste from local juicing and jam production. Fruit by-products used for this range are from apple, baobab, cherry, cranberry, lemon, lime, passionfruit, pomegranate, and prickly pear.










Fruit by-products are used in Crodarom's Phytolea™ range of natural derived oils.

Material area performance summary


2020 closed off our sustainability targets that were set five years ago. Pleasingly, we achieved many of them, further decoupling our environmental impact from financial performance. The below table summarises our performance.


Sustainability targets 2015-2020

Material area	Target	Status	Progress
Climate Action	By 2020, reduce total Group energy intensity by 5% from 2015 baseline.		We have achieved this target, with a 10.5% improvement in energy intensity since 2015.
	By 2020, generate 27% of the Group's total energy requirements from non-fossil fuel sources.		25% of our energy requirements were generated from non-fossil fuel sources in 2020. Although we narrowly missed our target, this was down to technical issues rather than a lack of investment.
	By 2020, reduce total Group scope 1 and 2 carbon intensity ¹ by 10% from 2015 baseline.		We have achieved this target, with a 32.9% improvement in scope 1 and 2 emissions intensity since 2015, illustrating how we are decoupling growth from environmental impact.
Environmental Stewardship	By 2020, reduce total Group VOC emissions by 10% from 2015 baseline.		We achieved this target, with a 13.3% reduction in VOC emissions since our 2015 baseline. Our Group VOC emissions are very small, continuing to reduce these will form part of our 2030 Reducing Emissions targets.
	By 2020, reduce total Group water withdrawal by 10% from 2015 baseline.		We exceeded this target, with a 16% reduction in total water withdrawal in 2020 from our 2015 baseline, due to water-saving initiatives across our manufacturing sites.
	By 2020, reduce Group waste to landfill by 10% from 2015 baseline.		We achieved this target, with a 33.9% reduction in waste to landfill from a 2015 baseline. In 2020, 11 of our top 19 manufacturing sites sent zero waste to landfill.
Process Safety	By 2020, conduct an independent review of our Process Risk Reviews (PRR) for high-hazard processes.		Completion date now set for 2023 in order to avoid reassessing some PRRs before they had reached their five-year interval for resubmission.

 Achieved early

 Achieved in 2020

 Not achieved²

 Integrated into 2030 Commitment

1. Our chosen measure of GHG emission intensity divides our GHG emissions (market-based scope 2 emissions) by value added. Value added is defined as operating profit before depreciation and employee costs at 2015 constant currency.

2. We will continue to progress these areas to 2030, but will not be reporting on them moving forward.

Material area	Target	Status	Progress
Health, Safety and Wellbeing	By 2020, achieve a sustained OSHA Total Recordable Injury Rate (TRIR) in the top quartile of chemical manufacturing companies with more than 1,000 employees.		This target was achieved a year early with a TRIR rate of 0.54 at the end of 2019. On a like-for-like basis this was maintained this year. As a recognised critical industry, we provided COVID-secure workplaces for those of our employees who were not able to work from home. We experienced a small number of possible work-related infections which we have included in our TRIR statistics. The Group made several acquisitions during the last five years, and these companies generally had TRIRs above the Group average. This, together with the possible work-related COVID-19 cases resets our headline TRIR to 0.86 as we enter 2021.
	By 2020, top management, regional leadership teams, business leadership teams and all operations management shall conduct regular behavioural safety observations.		Completed 2018. This was through the implementation of our Safety Leadership Programme, with the participation of senior management in safety increasing with regular participation in audits, and extension of safety risk awareness to offices and laboratories as well as manufacturing sites.
Product Stewardship	By 2020, only supply RSPO-certified palm oil ingredients subject to the feasibility of the supply chain.		The manufacturing sites processing 99% of our palm oil derivatives are RSPO-certified We fully expect to complete the transformation to 100% RSPO Supply Chain Certified in 2021.
	By 2020, work with a third party independent organisation to increase traceability of our palm derived raw materials ensuring progression towards zero deforestation in our palm oil supply chains.		This target was achieved a year early, as in 2019 we became founder members of Action for Sustainable Derivatives. Through this we have strongly encouraged other companies to join the coalition in order to harmonise requirements on transparency and risk monitoring in order to better support commitment to deforestation-free and responsible sourcing.

Global Reporting Initiative

Our 2020 report is in accordance with the GRI standards: Core for the period 1 January 2020 to 31 December 2020.

Throughout this report, look for the green reference icons as shown to the right, which indicate where information against our chosen GRI disclosures can be found.

Standard Number

Read our full 2020 GRI report online at www.croda.com/GRI

Report abbreviations

£m	Million pounds sterling	PRR	Process Risk Review
®	Registered trademark	R&D	Research and Development
ASD	Action for Sustainable Derivatives	RFT	Right First Time
APC	Advanced Process Control	RSPO	Roundtable on Sustainable Palm Oil
BSR	Business for Social Responsibility	SASB	Sustainability Accounting Standards Board
Bio-based organic	Carbon-containing, from renewable, non-fossil sources	SBT	Science-based target
CDP	Formerly 'Carbon Disclosure Project'	SBTi	Science Based Targets initiative
CEO	Chief Executive Officer	Scope 1	Direct emissions from our own, or controlled sources
CO₂	Carbon dioxide	Scope 2	Indirect emissions from the generation of purchased electricity, steam, heating and cooling
CO₂e	Carbon dioxide equivalent	Scope 3	All other indirect emissions that occur in our value chain
CSR	Corporate Social Responsibility	SDG	United Nations Sustainable Development Goal
D&I	Diversity & Inclusion	SHE	Safety, Health and Environment
DE&I	Diversity, Equality & Inclusion	SIA	Sustainability Impact Assessment
ECO	Environmentally Conscious Option range of bio-based products	SME	Small and Medium-sized Enterprise
ECHA	European Chemicals Agency	STEM	Science, Technology, Engineering and Mathematics
EEMEA	Eastern Europe, Middle East and Africa	TCFD	Task Force on Climate-related Financial Disclosures
ESG	Environmental, Social, and Governance	Te	Tonne
FWN	Fair Wage Network	TeCO₂e	Tonnes carbon dioxide equivalent
GHG	Greenhouse Gas	TM	Trademark
GRI	Global Reporting Initiative	TfS	Together for Sustainability
IFRS	International Financial Reporting Standards	TRIR	Total Recordable Injury Rate
INCI	International Nomenclature for Cosmetic Ingredients	UK	United Kingdom
IPCC	Intergovernmental Panel on Climate Change	UEBT	Union for Ethical BioTrade
ISCC	International Sustainability and Carbon Certification	UN	United Nations
kg	Kilogram	US	United States of America
KPI	Key Performance Indicator	USDA	United States Department of Agriculture
kW	Kilowatt	UV	Ultraviolet
LCA	Life Cycle Assessment	VOC	Volatile Organic Compound
LED	Light Emitting Diode	WHO	World Health Organization
M3	Cubic Meters		
M&A	Mergers and acquisitions		
NDPE	No Deforestation, No Peat, No Exploitation Principles		
NPD	New Product Development		
NGO	Non-Governmental Organisation		
NPP	New and Protected Products		
OBE	Order of the British Empire		
Organic	Carbon-containing, from renewable and/or fossil sources		
OSHA	Occupational Safety and Health Administration		
PBT	Profit before tax		
Plc	Public Limited Company		
PPE	Personal Protective Equipment		

Cautionary Statement

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