



**Sustainability
+ Innovation
= Growth**

Sustainability Report 2021

www.croda.com

CRODA

Guided by our Purpose, sustainability together with innovation will drive our future growth.

2021 has been an excellent year for Croda. We made progress against our sustainability commitments, delivered a record financial performance and concluded our strategic review, refocusing the business on fast growth markets of the future.

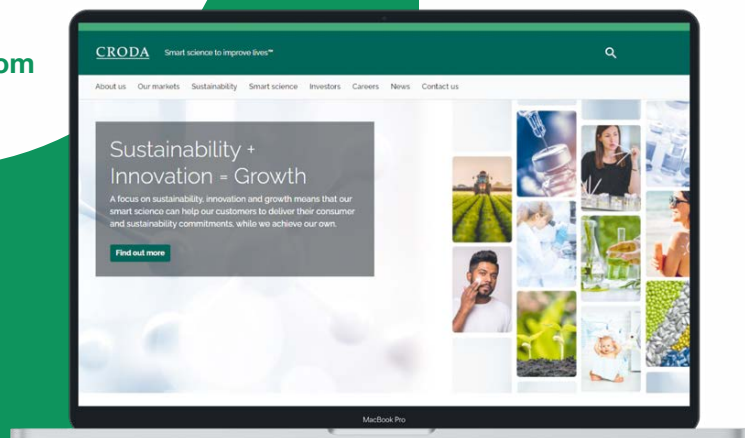
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Our front cover
Zhi Yang Lee, Industrial Placement Student working
in our metal oxides laboratory, Ditton, UK.

Smart science to improve lives™


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Sustainability


We have made a bold Commitment to be Climate, Land and People Positive by 2030. By being the most sustainable supplier of innovative ingredients, we will provide solutions to some of the world's biggest challenges while helping our customers achieve their sustainability goals.

 See Delivering our Commitment P03



Innovation


Innovation is the lifeblood of our business and our success is dependent on our ability to deliver innovative solutions to customers. Our approach to innovation combines our own internal R&D with customer collaboration and open innovation partnerships to accelerate the development of disruptive technologies.

 See Aligning new products and processes with our Commitment P04



Growth

As we deliver on our Commitment to be Climate, Land and People Positive by 2030 we will significantly grow our positive impact toward meeting the SDG targets. In doing so we will differentiate ourselves in the level of support given to our customers to meet their sustainability targets, creating value growth opportunities for them and our shareholders.

 See Delivering positive impact for the planet and society P07

Highlights

Sales

£1,889.6m

2020: £1,390.3m

Adjusted PBT growth (constant currency)

+56.2%

2020: -4.8%

Scope 1 & 2 emissions intensity (TeCO₂e/£m)

193

2020: 264

Sales growth (constant currency)

+43.2%

2020: +1.1%

Women in leadership positions

36.1%

2020: 34.6%

Safety (Total Recordable Injury Rate*)

0.73

2020: 0.58

IFRS profit before tax (PBT)

£411.5m

2020: £269.5m

Organic raw materials from bio-based sources

69%

2020: 67%

Hectares of land saved over our 2019 baseline

33,734

2020: 16,455

* TRIR excludes COVID-19 cases and includes acquisition impact

Sustainability + Innovation = Growth

69%

of raw materials from
bio-based sources

3rd

major chemical company
to have a 1.5°C science-based
target validated and committed
to net zero by 2050

“

Our work with
Action for Sustainable
Derivatives and others,
to share knowledge,
expertise, technology
and financial resources
will continue to deliver
and amplify our
positive impact.

Chris Sayner
Vice President – Customer Alliances

Chris Sayner and Julia Creasey talk industry leadership, Partnerships for the Goals, and science-based targets



Chris Sayner is Vice President – Customer Alliances

CS Our Commitment is to be the most sustainable supplier of innovative ingredients, being Climate, Land and People Positive by 2030, delivering positive impact and measurable contribution to the UN SDGs. This will be further amplified by working throughout the supply chain.

The United Nations Sustainable Development Goals (SDGs) provide a vital framework to connect supply chains with suppliers upstream and customers downstream, synchronising efforts and maximising positive impact.

Companies working together with validated science-based targets for climate will enable measurable decarbonisation of whole supply chains on a cradle-to-grave basis.

Protection of the environment, nature and biodiversity will be delivered by business which understands its footprint through impact assessment and dependencies.

Supporting health needs via products and activities throughout the value chain is a prerequisite to sustainable business.

SDG 17, Partnerships for the Goals, calls for multi-stakeholder partnerships. Our collaborative work with Action for Sustainable Derivatives, Together for Sustainability, the UNGC, CISL Business Transformation Group and others, to share knowledge, expertise, technology and financial resources will continue to deliver and amplify our positive impact.

JC

One of the key outcomes of COP26 was that it served to highlight the urgency with which we must tackle the climate

emergency, and the level of ambition and commitment required across society if we are to limit global temperature rises to 1.5°C, preventing the most catastrophic effects of climate change.

Leading our sector in becoming only the third major chemical company in the world to have a 1.5°C science-based target validated, we are turning ambition into action as we have developed investment-ready decarbonisation roadmaps across our manufacturing sites.

Through the combined efforts of our sites delivering these projects, our R&D teams innovating to develop low carbon alternative solutions, and supply chain engagement, we will support our customers on their decarbonisation journeys. The in-use benefits of our ingredients will also help consumers reduce their own carbon footprints.



Julia Creasey is Sustainability Director

As part of the Race to Zero campaign we must look beyond 2030, and as an organisation we have committed to be net zero by 2050. Collaboration across industry, communities and technology providers will be required to ensure solutions such as hydrogen power and carbon capture can be implemented, alongside using biotechnology to develop alternative solutions to meet our customers' needs.

Natura&Co awards: Winner Best Raw Material Supplier

2021 saw us win the Best Raw Material Supplier award from Natura for our continued focus on sustainable supply chains and specific focus on Roundtable on Sustainable Palm Oil (RSPO) materials and certification.

These supplier awards aim to improve supply chain performance through collaboration with key strategic partners, ensuring that suppliers share and demonstrate the values and beliefs of Natura. As part of the award, suppliers undergo a rigorous assessment against many criteria, including environmental and social. With the purchase of Avon and the creation of the Natura&Co group (Natura, The Body Shop, Avon and Aésop) this programme is now called EMBRACE.



Aligning new products and processes with our Commitment

Kim Carmichael and Ian Tooley discuss the benefits of carbon reduction for customers



Kim Carmichael is Decarbonisation and Process Technology Director

KC Further transforming the way we manufacture our products will play an important part in meeting our climate change objectives. Several approaches are taken by Croda in efforts to reduce carbon emissions, which include: improving energy efficiency on our manufacturing sites, substituting our current fossil fuels with renewable energy and identifying low carbon next generation technologies for use in our manufacturing.

Our decarbonisation roadmaps require that we eliminate our reliance on fossil fuels and only consider low-carbon processes for our operations in order to meet our net zero objective by 2050.

Adopting innovative processes / technologies to improve efficiency and, in turn, lower carbon emissions, through a varied pipeline of novel technologies will enable Croda's manufacturing to be both low carbon and profitable. Examples of recent innovations include several manufacturing sites applying digitalisation tools to optimise process conditions, which has led to yield and efficiency benefits. Also, in 2022, one site will be implementing continuous process technology which will enable Croda to manufacture several key products in a more energy efficient and flexible way.

Switching to renewable energy sources is only part of the journey.

IT Innovating novel ingredients to meet our 2030 Commitment is at the heart of Croda's strategy. We need to ensure that new products coming into our portfolio are already meeting the required criteria against our 2030 sustainability targets. This is particularly important given the innovation cycle times involved, as products in our laboratories today will likely reach peak impact through sales to our customers around 2030.

But innovation is not solely the responsibility of the research and development teams, it is a joint enterprise with the commercial teams, external partners and customers. All these groups, therefore, need to be prioritising innovation that helps our customers deliver the greatest impacts against the SDGs, as well as using the 12 Principles of Green Chemistry to target the intrinsic sustainability requirements of new ingredients to support this.

During 2021 we have been putting in place processes and rolling out training to ensure this is considered at the very start of the innovation cycle, building in sustainability by design in our innovative future ingredients. From my newly created role, I am very excited to lead this work, and connect all parts of Croda to align behind the sustainable innovation challenge.



Ian Tooley is Vice President - Chemistry

Low carbon sulfate-free surfactants

Rapid manufacturing capacity expansion is required in 2022 for our sulfate-free product range. To minimise our carbon emissions we have incorporated many low carbon technologies into our expansion plans, such as membrane filtration for concentrating solutions, continuous processing, industrial heat pump technology and advanced process control tools. By implementing such technologies we can rely less on fossil fuels, as the new process is largely powered by renewable electricity, and reduce our overall energy usage and deionised water consumption by improving the efficiency of the process. By utilising new technology to increase the final product concentration we are also able to reduce the scope 3 emissions associated with transportation of products to our customers.

The increased level of automation associated with the new process will improve the process safety profile, enhance product quality and decrease operating and capital costs.



Sustainability + Innovation

= Growth

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SDG targets underpin our sustainability strategy

88%

of new products launched in 2021 directly contribute to our priority SDG targets

“

Our decarbonisation roadmaps require that we eliminate our reliance on fossil fuels and only consider low carbon processes for our operations in order to meet our ultimate net zero objective for 2050.

Kim Carmichael
Decarbonisation and Process Technology Director

Sustainability + Innovation

= Growth

27%

reduction in scope 1 and 2
GHG emissions intensity since
2020, demonstrating we are
decoupling growth from
environmental
impact

mRNA
and gene
therapy

We have an important role in next
generation vaccines and other
therapies

“

Through the pandemic we have learnt of the increasing importance of working closely with our partners, in a more transparent way than ever before.

Laura Reilly
Vice President – Life Sciences Marketing
and Digital

Laura Willemssen and Laura Reilly provide commentary on future opportunities



Laura Willemssen is Vice President – Consumer Care Marketing

LW Consumer demand for personal care solutions with proof of effectiveness, underpinned by science and that are sustainable, is growing rapidly globally. Generation Z consumers, aged up to 25, are influential and sustainability-conscious, self-educated and looking for efficacy and transparency.

Our Personal Care business is already predominantly bio-based, this year we enhanced this further with the acquisition of Alban Muller. This is a company with a unique portfolio of natural ingredients including high tech actives, combining efficacy with the natural origin of botanically sourced ingredients.

Alban Muller has solutions to meet consumer demand and support our customers to make scientific and sustainability pack claims. The business is well positioned for fast growth thanks to in-house developed innovation and external collaborations.

Alban Muller has full value chain transparency for its products, and local sourcing collaborations is one area of differentiation that enables us to develop holistic value propositions for, and together with our customers.

The novel and unique Zeodration technology opens the door to fast growing market demand for waterless personal care solutions. This technology combines high performance and sustainability benefits in terms of reduction of energy, water consumption and carbon footprint.

Together with Sederma and Crodaron, as part of our Beauty Actives business, Alban Muller offers our customers the complete portfolio of science and sustainable natural active ingredients.



LR Helping to address the challenge created by the biggest global health crisis in living memory has been a career highlight for many of our teams. Our Purpose is delivering smart science that improves people's lives. I can't think of a better breakthrough that would change people's lives than enabling the COVID-19 vaccine discovery.

This tangible example shows that we have an important role to play in enabling the potential of next generation vaccines or other therapies, for example, gene therapy and mRNA technology. While much of this science is still in its relative infancy, there has been a sharp rise in the number of early phase pharmaceutical trials in these areas. Through the pandemic we have learnt of the increasing importance of working closely with our partners, in a more transparent way than ever before. With common goals we are stronger together. The world is now looking to apply mRNA to tackle many other diseases, from flu to malaria, and we are committed to do all we can, with our drug delivery technologies and expertise, to fast track future breakthroughs.



Laura Reilly is Vice President – Life Sciences Marketing and Digital

Collaboration is also at the heart of our growth across our Crop Care businesses. The agricultural industry, and food production around the world, is at a pivotal time of change to a more sustainable future. This transition drives innovation. There is a requirement for products and services with minimal environmental impact, and customers welcome co-design on microplastic-free, low carbon or biodegradable solutions. Increasingly these are targeted at biopesticide development.

Something that I believe makes us special is that while we are a growing company, we continue to retain our agility and intimacy with customers, yet also see the bigger picture. Our continued investment in local product validation centres, most recently in Brazil, is a great example of this; a multifaceted team, with a strong focus on innovation, digitalisation and new technologies, coming together under one roof to create sustainable solutions.

Extraordinary people



We take great pride in the extraordinary commitment from our people, who are using Smart science to improve lives™

Steve Foots
Group Chief Executive

Shared Purpose

2021 demonstrated once again how our Purpose and Commitment to sustainability are helping to deliver record performance in the face of many challenges. The COVID-19 pandemic continues to test many aspects of day-to-day life and at Croda we can take great pride in the extraordinary commitment from our people who are using Smart science to improve lives™.

Our ambition to create a positive impact is an integral part of our culture which continues to define our success. Throughout this second year of COVID-19, I saw at first-hand the resilience of colleagues managing societal challenges together with the challenges in business. Increasing vital supplies of our COVID-19 vaccine ingredients, responding successfully to the rapid recovery in demand, integrating acquisitions, completing the strategic review of our industrials businesses, maintaining our innovation pipeline and focusing on meeting climate change objectives have all been due to the extraordinary efforts of our people.

Shared Commitment

We have not been distracted by the day-to-day challenges presented in 2021 and have focused on our 2030 targets to be Climate, Land and People Positive in this, the “Decade of Action”. Our 2030 Commitment continues to be an enabler and significant contributor to our overall performance.

In 2021 we became only the third major chemical company globally to have a 1.5°C Science Based Target (SBT) verified and declare our ambition to become a net zero organisation by 2050. Our ambitious greenhouse gas emission reduction targets, covering both our operations and supply chain, set us apart as leaders in our industry, reflecting our ongoing departure from fossil-based chemistry over many years, and endorsing our capital light business model.

I am delighted with the detailed validation of our scope 3 carbon inventory; carbon embedded in supply chains is challenging for many businesses and with life cycle assessments now covering 75% of our raw material inventory we have a clear view of where we need further decarbonisation in our supply chains.

We will do the right thing following the divestment of the majority of our industrial businesses expected this summer, retaining our bio-based raw material target which becomes more challenging but rebasing our carbon targets, which otherwise would have become easier.

Understanding the impact of our business on nature is as important as understanding scope 3 carbon. The Science Based Targets Network (SBTN) is developing guidance to set science-

based targets for nature that will define a clear pathway to address dependencies on nature and inform solutions to reduce the risk of nature loss. Understanding land footprint is pre-requisite to understanding our impacts, so our Land Positive ambition provides us with unique opportunities for positive impact on nature and biodiversity.

Innovation

Our innovation is being driven by increased internal investment and stronger external partnerships. The increase in the proportion of New and Protected Products (NPP) that we sell and formulate into customer products is testament to our strong innovation engine. We are now involved in over 150 COVID-19 projects in over 30 countries and contributing to the development of 15 of the 24 vaccines prioritised by the World Health Organization.

To help our communities, in 2021 we established Croda Foundation, providing £1m of annual funding to help permanently improve one million lives, and subsequently an extra funding award of £2m to improve vaccine and health infrastructure.

Supporting our Climate, Land and People Positive strategy are our Fundamental objectives that include our commitment to be a safe company for our employees and communities. While our headline safety stats were disappointing, the vast majority of our locations recorded an excellent safety performance in 2021, and we are working with the remainder to deliver our targeted improvement to a TRIR of 0.3 by the end of 2024, which would position us as one of the leaders in our industry.

Our employees

Within Croda, we pay a living wage to all employees and are making good progress on our gender balance targets, with a continued increase in women in leadership positions and full gender parity on the Board.

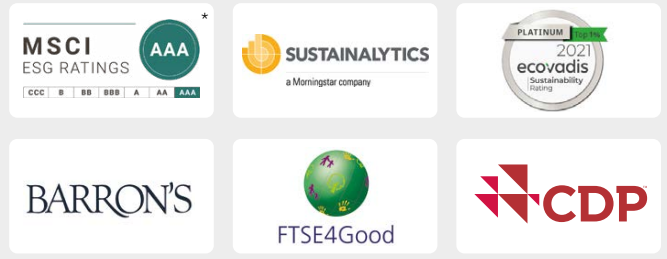
We end 2021 with confidence and collective pride in our business, our Purpose and our Commitment to make a positive impact and I thank everyone across Croda for their continued ambition and commitment to leadership in sustainability.

Steve Foots
Group Chief Executive

Showcasing our Commitment

Our ratings and frameworks

While our full focus is on delivering impact, we understand the value to our stakeholders of external ratings. We use the submission and feedback processes from ratings such as MSCI, Sustainalytics, EcoVadis and CDP to learn and improve our approach across the sustainability agenda.



Positively impacting society

In June we received a **societal contribution award** from the American Chemistry Council for our lipid systems, which provided a critical foundation for a major COVID-19 vaccine. We were recognised for this award as the first company to supply clinical and commercial quantities of the lipid technology that enables the targeted release of the mRNA vaccine to muscular tissue, helping to enable rapid development of a vaccine to protect individuals from COVID-19 and enhance human health and quality of life.

Beyond COVID-19, our lipid systems can help in the development of future vaccines and other medical treatments and will play an important role in helping us reach our target of contributing to the successful development and commercialisation of at least 25% of the pipeline vaccines listed by the WHO by 2030. We were pleased to be recognised for living our Purpose of Smart science to improve lives™.



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 all stakeholders, even in years of challenge and worldwide change.

Sustainability + Innovation = Growth

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
- Across short, medium and long-term time horizons, identifying the specific risks and opportunities associated with existing and developing ESG themes (for example, climate) which could present a material impact on our business

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

Increasing our positive contribution to the SDG targets by 2030, at the same time creating value growth opportunities for our customers.

We achieve this through:

- Sharing a clear Purpose and engaging all employees in our Commitment
- Applying a resilient business model that enables long-term planning
- Using our unrivalled local, direct and digital selling approach to engage all customers
- Decarbonising our balanced global manufacturing footprint
- Following a proactive approach to strategic innovation and product portfolio management

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Our business model

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

1

Who we rely on

Innovation partners

37%
NPP as a
% of total sales
(2020: 27%)

36
new open innovation
projects initiated

Our innovation model combines internal R&D with external technology investments and partnerships, providing opportunities to collaborate with universities and SMEs. This innovation ecosystem is unique, with R&D advances increasingly driven by these partnerships. Our partners contribute to the high proportion of NPP we sell and the continued differentiation of our portfolio. In return, our shared knowledge helps them to advance science, secure funding and make breakthroughs that benefit society.

Employees

84%
UK employee share
scheme participation
(2020: 85%)

60%
Non-UK employee
share scheme
participation
(2020: 63%)

8%
Voluntary employee
turnover
(2020: 5%)

We have a growing global employee base with more than a quarter of employees now located in Asia serving faster-growth markets. Recent acquisitions have increased the proportion of people in science-based roles. Improving workforce diversity is benefitting innovation by expanding the range of thinking in our company. Our model is decentralised, facilitating faster decision-making delegated to colleagues who are close to customers. Our clear sense of Purpose and sustainability Commitment, underpinned by high levels of employee share ownership, ensures that everyone pulls together to achieve our goals. This is reflected in strong engagement and high employee retention rates.

Suppliers

Suppliers
representing
65%
of our spend have
been evaluated for
their responsible
practices
(2020: 50%)

Most of Croda's organic raw materials are bio-based (originating primarily from palm derivatives, corn, castor, rapeseed, coconut and sunflower oils), enabling us to provide alternatives to fossil-based ingredients. Using natural resources brings with it responsibility to ensure there are no negative societal or environmental impacts as well as ensuring security of supply. We partner with suppliers to improve sustainability practices in supply chains and commit to sharing the benefits equitably.

2

What we do

CRODA

We use smart science to create high performance ingredients and technologies that improve lives. Our ingredients deliver vital functionality to customers at low inclusion levels, providing low footprint, high impact solutions to help them meet their sustainability goals, and those of wider society. We operate globally and are focused on high-value niches in life science and consumer markets.

Create

Leveraging our position as the leading innovator in our selected markets, we meet consumer needs by continuously expanding our portfolio of 6,000 sustainable and innovative ingredients, supported by claims validation, quality testing, sustainability data and regulatory insight.

Engage

By building direct relationships with customers, rather than using distributors, and collaborating with them at Croda innovation centres around the world, we gain a detailed understanding of their needs helping us to identify new opportunities.

Make

We use resources safely and responsibly at our manufacturing sites around the globe, running flexible operations that have a lower capital intensity than most chemical sector peers.

Sell

We have a unique direct selling model encompassing local sales, technical resource and warehousing, selling ingredients to around 17,000 customers ranging from multinational companies to regional and independent brands.

Priority SDGs



Why we are different

- Strong sense of Purpose
- Agile, decentralised operating model; 'One Croda' culture
- High proportion of renewable raw materials
- Long-standing leadership and investment in sustainability
- Long-term sustainability strategy in place
- Global footprint with local sales, R&D and warehousing
- Collaborative, open innovation model
- Flexible, capital-light operations
- Direct-to-customer selling model rather than using distributors
- Broad customer base, large and small
- Compete on value rather than price
- Focused on high-value niches
- Top returning FTSE 350 company over the last 20 years

3

Who we create value for

Employees

We have 6,135 (2020: 5,684) employees globally, all of whom received a Living Wage in 2021. We increased the proportion of women in leadership roles to 36% in 2021, in line with our commitment to achieving full gender balance in leadership positions.



Communities

Our employees donated 2,750 hours (2020: 2,559 hours) via our 1% Club, volunteering in their local communities and delivering tailored support in response to COVID-19. We are providing access to our smart science through Croda Foundation, which achieved charitable status and began funding programmes to improve one million more lives.



Society

We use our smart science to improve the lives of people all around the world (see People Positive below). In every country in which we operate we pay all required taxes and have a fair taxation policy.



Customers

Customer demand

Our customers seek innovative and sustainable ingredients to differentiate their products and meet changing consumer requirements.

~6,000 speciality ingredients

~17,000 customers worldwide

Customer product

Customers use our ingredients at low inclusion levels in their products to deliver vital functionality, while helping to meet their sustainability commitments, regulatory requirements, and consumer needs.

Consumers

Consumer requirements

Climate change, biodiversity loss, widening inequality, changing demographics, and innovations in digital technologies are transforming consumer demands. See megatrends, page 12.

+100% increase in sustainable products launched since 2019

Consumer benefit

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

Shareholders

Croda is the top-returning FTSE 350 company over the last 20 years. We delivered a record financial performance in 2021 and made significant progress on our non-financial performance as we execute our sustainability strategy.

24% effective annual return over 20 years

Delivering our Commitment

Climate Positive

We are reducing our emissions in line with our verified Science Based Target, aligned with limiting global warming to the 1.5°C scenario. The majority of our raw materials are renewable rather than petrochemical-based, delivering product carbon footprint reductions to our customers.



Land Positive

We are already land net zero with our crop and seed technologies saving more land than is used to grow our bio-based raw materials.



People Positive

Our ingredients improve health and wellbeing, for example in 2021 protecting 55 million people from skin cancer, and our lipid, adjuvant and excipient technologies are included in trial vaccines for 15 out of the 24 priority diseases on the WHO's Pipeline Vaccine list.



Megatrends

Among the megatrends that will drive growth across Croda, three common themes are *sustainability*, *emerging markets* and *digital*. Our response to each continues to develop as we work towards our Commitment to be Climate, Land and People Positive by 2030.

Sustainability

Scanning the horizon beyond the COVID-19 pandemic, other crises remain urgent: climate change, loss of biodiversity, conserving resources and social inequality. This is recognised by business – in the five previous years, environmental and societal risks have occupied four out of the top five “risks on a global scale over the next 10 years” identified in the World Economic Forum Global Risk Reports. In 2022 all of the top five global risks connected with the sustainability crises.

The United Nations IPCC Sixth Assessment Report confirmed what most people recognise: human-induced climate change is already causing many weather extremes in every region across the globe, and the correlation with human activity has strengthened since its last report. Only by reducing greenhouse gas (GHG) emissions to net zero as quickly as possible and at the latest by 2050 can society limit the temperature rise to 1.5°C above pre-industrial levels, and so avoid the worst impacts of climate change.

2021 not only confirmed the known science and need for urgent action on climate change, it also saw an explosion in public and political awareness of the crisis in nature, with biodiversity loss recognised for the second year running as

one of the top business risks by the World Economic Forum.

Social inequality clearly drives negative outcomes for the poorest in society, who are hardest hit by the impacts of climate change, poor health and future opportunity. However, research shows that high levels of inequality negatively impacts all levels of society, not just the poorest.

United Nations SDGs

The United Nations Sustainable Development Goals (SDGs) tackle these interlinked issues and were designed as a blueprint to help achieve a better, more just and more sustainable future for all.

They require organisations to consider where to focus resources to maximise their positive impact. With the SDGs describing what success looks like in 2030, the context in which businesses are operating and trying to deliver against the targets is changing rapidly. The 2021 United Nations Climate Change Conference (COP26) showed how leading businesses are setting the agenda and encouraging (even driving) governments to raise their level of ambition and plan for successful execution. It also highlighted the level of frustration and anger that is building in communities for more urgent and transformational change.

 See our strategy P09

Emerging markets

Emerging economies present significant challenges to meeting the SDGs, not least since rapid mass urbanisation aimed at raising standards of living can also pose threats to environmental and societal health. Increasing consumption and an expanding middle class drive demand for consumer goods and health care in such countries, particularly for products that improve living standards.

We believe no trade-offs should be made between solving social and environmental issues and achieving living standard improvements: they must be complementary.

Through increased access to expertise, resources and education, emerging economies have the opportunity to ‘leapfrog’ some of the environmental and social issues faced by the developed world in creating a more sustainable future for all.

 See our strategy P09

Digital

Digital transformation offers unparalleled opportunities to help overcome some of the world’s biggest challenges. This can include meeting requirements for integrity in supply chains, speeding up innovation, a continued drive to make more with less, and today’s 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 now expect greater choice and want to know more about the products they use, favouring companies that innovate responsibly and are transparent.

 See our strategy P09

Top global risks by impact

- Geopolitical
- Environmental
- Societal

Source:
World Economic Forum's Global
Risks Report 2022

2022	Climate action failure	Extreme weather	Biodiversity loss	Social cohesion erosion	Livelihood crises
2021	Infectious diseases	Climate action failure	Weapons of mass destruction	Biodiversity loss	Natural resource crises
2020	Climate action failure	Weapons of mass destruction	Biodiversity loss	Extreme weather	Water crises
2019	Weapons of mass destruction	Climate action failure	Extreme weather	Water crises	Natural disasters
2018	Weapons of mass destruction	Extreme weather	Natural disasters	Climate action failure	Water crises
	1 st	2 nd	3 rd	4 th	5 th

How we are responding

Sustainability underpins how 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.

With our strong Purpose, we are committed to meeting the interests of all stakeholders. For example, non-financial metrics are now monitored alongside financial and linked to specific targets within the SDGs. We are committed to being the most sustainable supplier of innovative ingredients.

Becoming Climate Positive

Our science-based target has been validated to the 1.5°C pathway, with Croda the third major chemical company globally to do so. We are committed to becoming a net zero organisation by 2050. We are increasing our use of bio-based raw materials and providing ingredients that enable our customers to save carbon and reduce emissions.

Becoming Land Positive

The use of our crop protection ingredients and seed treatment technologies already saves more land than we use to grow our raw materials. We are innovating to increase agricultural land use efficiency, protect biodiversity, and ensure food security. We also have a commitment to deforestation-free and responsible sourcing and are working to understand our impacts and dependencies on biodiversity.

Becoming People Positive

Croda Foundation awarded grants to its first round of social impact projects, and also received a £2 million restricted grant from Croda International to support health infrastructure projects in developing countries. In health and wellbeing, our adjuvant technologies are being evaluated in 15 out of 24 WHO pipeline vaccines. Vaccination is one of the most cost-effective ways of protecting people and can have the greatest impacts in poorer countries.

“Companies with a genuine purpose to deliver long-term wellbeing cannot wait until they get everything right. They need to be transparent about their sustainability goals and transition plans, to build momentum with stakeholders for the delivery of positive impact.”

Aris Vrettos

Director, Centre for Business Transformation, Cambridge Institute for Sustainability Leadership

How we are responding

In our own operations we apply the same high standards everywhere that we operate, with a particular emphasis on governance, sustainability and business ethics, while recognising that many market structures and 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.

With the acquisition of Iberchem, we have an outstanding opportunity to support sustainable growth in countries with lower scores on the Human Development Index (HDI) by working with local customers and consumers on key issues and enabling widespread use of our sustainable technologies.

We are already involved with insetting: enabling positive impacts in rural communities through

our bio-based raw material supply chains, which are mainly located in emerging markets.

For example, our Beauty Actives business supports the Rimba Raya project in Indonesia, helping local communities to improve their livelihoods and restore rainforest. We foresee further opportunities through supply chain consortia, such as Action for Sustainable Derivatives.

How we are responding

We are investing in digitalisation initiatives across all aspects of our business model, accelerating progress towards meeting our Commitment to become Climate, Land and People Positive by 2030.

We have rolled out the first phase of our Ingredient Transparency project, providing customers with up to 150 sustainability-

connected datapoints on key products. We have applied artificial intelligence and data science to shorten product development lifecycles and invested in knowledge management to leverage global R&D expertise. We have also rolled out a centralised sustainability reporting software suite (see case study page 38) to improve ease of data reporting by all locations, automating

analysis, and allowing all parts of our business to view sustainability data relating to their responsibilities.

Our new Customer Insights Centre of Excellence (see case study page 39) uses digital tools to engage and capture feedback from thousands of customers in all regions so we respond better to their needs.

2021 materiality assessment



Antonia Doncila, Sustainability Specialist, provides insight into the benefits of updating our materiality assessment

AD In our journey to become Climate, Land and People Positive by 2030, we want to ensure our corporate strategy is aligned with the expectations of stakeholders, and it develops in the right direction given the backdrop of rapidly changing environmental and societal requirements on business. A Group materiality assessment allowed us to fine-tune our understanding of the sustainability issues and opportunities most material to our key stakeholder groups, and therefore most strategic for our business. The risks and opportunities identified were added to the risk registers using the global risk framework. Recurring themes from this stakeholder engagement include: transparency and traceability across the entire value chain; increasing regulations and reporting obligations; biodegradability and waste management; more proactive engagement; and wider collaboration to understand and address the interconnected nature of issues.

This exercise confirmed that our 2030 strategy and objectives resonate strongly with our stakeholders' vision. The overwhelming message was a clear recognition of the progress Croda has made on sustainability, our solid disclosures, and commitment to transparency.

Changes since our 2018 assessment

While material areas such as Climate Action, Process Safety and Product Innovation sit at the top of our priority list and are fundamental drivers of growth, the latest assessment revealed ideas for improved dialogue, a great potential for expertise sharing, and issues on the horizon we should be considering. New material areas such as Biodiversity, Circular Economy and Global Health Preparedness have been added to reflect our holistic view of sustainability, to guide development of new meaningful corporate targets, and provide greater granularity and disclosure across the value chain.

Process

Desktop research

Using a methodology aligned with the ISO 26000 standard, we examined a broad range of sources identifying hundreds of material issues which were then refined and consolidated. Further stakeholder engagement was based on a final list of 65 material issues grouped under 15 umbrella themes that became our material areas.

Stakeholder engagement

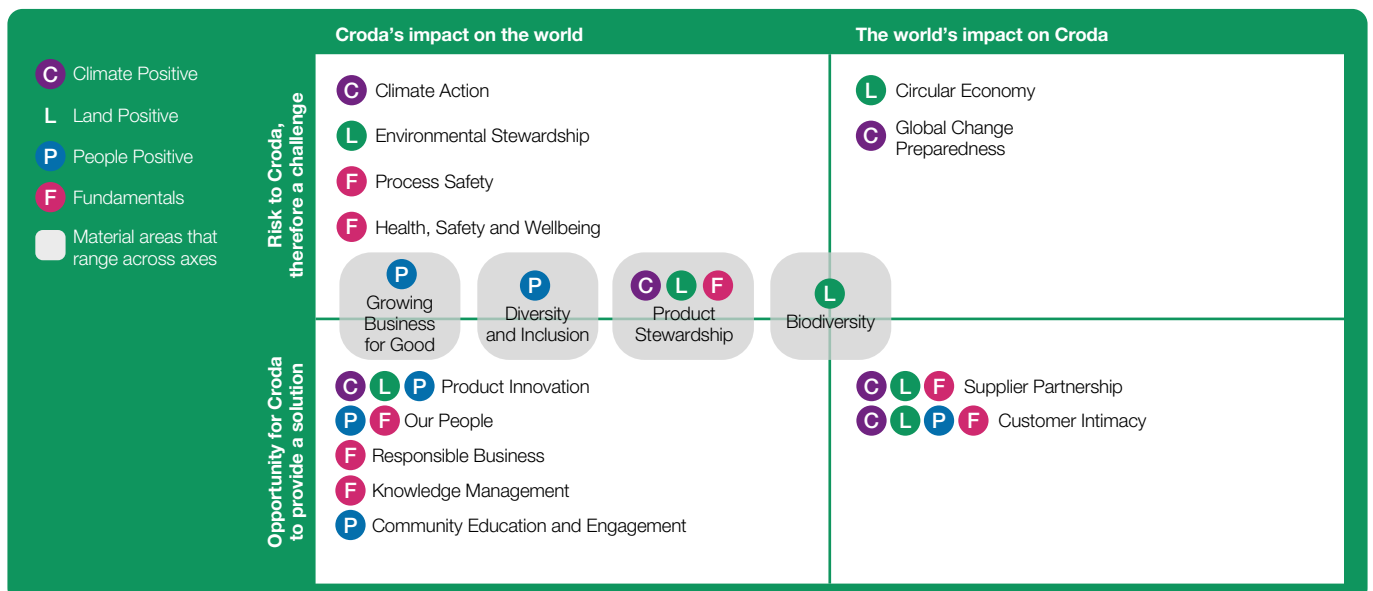
We collaborated with an external provider to engage with four key stakeholder groups: investors, customers, suppliers and employees. The objective was to validate, score and rank the material issues and themes identified in the previous step, gaining a more granular understanding of trends, priorities and perceptions by stakeholder group. Using surveys and interviews, we were really pleased with the level of engagement, making this review the most comprehensive to date.

Final scoring

In a focus group session, our Sustainability Committee examined the findings and how they aligned to our ESG strategy and reporting framework and our 2030 sustainability targets. They considered issues not currently addressed and how they might be managed and measured. The hierarchy of material areas was then adjusted, adding new material areas to reflect the developing sustainability agenda.

Materiality matrix

We have mapped our material areas according to their most likely source and outcome, and where they intersect with our sustainability strategy to be Climate, Land and People Positive by 2030.



Key stakeholder insights

	Customer	Investor	Supplier	Employees
Climate Action	●	●	●	●
Product Innovation	●	●	●	●
Our People	●	●	●	●
Environmental Stewardship	●	●	●	●
Supplier Partnership	●	●	●	●
Process Safety		●		●
Product Stewardship	●	●	●	●
Customer Intimacy	●	●	●	●
Health, Safety and Wellbeing		●		●
Responsible Business	●	●	●	●
Growing Business for Good	●	●	●	●
Diversity and Inclusion	●	●	●	●
Global Change Preparedness		●		●
Knowledge Management	●	●	●	●
Community Education and Improvement		●		●

- **Top of mind**
Issue explored in depth, a top priority, mentioned frequently.
- **Central agenda**
Issue discussed, a high/growing priority, mentioned often.
- **Active monitoring or emerging**
Issue touched on, not an immediate priority, mentioned in passing.

Additions to our materiality matrix based on stakeholder engagement

Biodiversity

Circular economy

Biodiversity and circular economy were highlighted as key concerns by stakeholders in both the survey and especially in the interviews. They were mentioned specifically rather than as part of the existing issues covering them.

Stakeholders want more clarity about how these issues are being taken forward, as they don't feel they're currently discussed well enough in our strategy.

Suppliers

Suppliers consider product innovation as a critical solution from a circularity, climate change and human rights perspective. They recognise our leading expertise on emerging sustainability issues and are keen for more expert-to-expert dialogue to align priorities and co-ordinate faster sustainability action. Suppliers want a better understanding of how they fit into our overarching strategy as well as greater collaboration around supply chain requirements and limitations, given more stringent legislation and regulations.

Customers

Customers want to achieve higher levels of quality assurance and traceability throughout the value chain. They emphasised the need to think more holistically about each product, its environmental footprint and the role it will play in a circular economy. In this context, customers applaud our willingness to share information and our meaningful sustainability targets, and welcome the opportunity to work together on joint projects and share information to demonstrate greater accountability without losing confidentiality.

Employees

Employees scored Process Safety, Health Safety and Wellbeing, Diversity and Inclusion, Knowledge Management and Global Change Preparedness higher than external stakeholders, giving these areas equal weight to Climate Action. They recognised the need to improve product availability in the developing world while being prepared for shifts away from high consumption, and are keen for more training around the circular economy and how Croda fits in. A diverse workforce, mental health wellbeing and internal knowledge sharing were quoted as the basis for innovation.

Investors

Investors showed overarching support for our ESG strategy, recognising our solid disclosures and commitment to transparency. Our verified science-based targets bring greater credibility to our 2030 objectives and investors anticipate more detail through clearer linkages, signposting and case studies around how SBTs will be met. They see R&D, human capital management and protecting biodiversity as important aspects of transitioning to a more sustainable world. Moving forward, investors expect a continued focus on impact reporting, going beyond communicating on specific issues and into disclosure on wider holistic impacts and sustainable revenue analysis.

Sustainability Committee

The Sustainability Committee, as owners of the sustainability strategy, examined the materiality assessment outcomes through the lens of our Purpose, Smart science to improve lives™, and identified new opportunities to maximise impact, and approaches for more targeted sustainability action. An important learning is that future business resilience is dictated by an increasing focus on transparency and traceability across our entire value chain, which reaches beyond climate issues into biodiversity, circular economy and human rights. Material areas such as Process Safety, Climate Action, Product Innovation, Responsible Business and Our People already provide solutions to this new learning through the long-term targets linked to them. In addition, new sustainability objectives involving expertise sharing and a more collaborative approach internally and externally will be created. We will map the needs of our customers and suppliers, identifying areas where we can help them to meet their sustainability goals through mutually beneficial partnerships, and refining our messages around the significance of this work.

For more information on the process, the material areas and their definitions please access croda.com

Management, governance and culture



Looking ahead, sustainability leaders will differentiate themselves not by increasing levels of ambition, but through excellence in execution. This is why we announced interim milestones against our 2030 targets in the last year, and where we will focus in 2022.

Phil Ruxton
Chief Sustainability Officer

Progress against our ambitious 2030 Commitment

As the world continued to deal with the effects of the pandemic, the crises in climate, nature, overexploitation of resources and inequality remain and, for many, have worsened as a result of COVID-19. With this backdrop, I am really pleased to report the 2021 progress achieved by the Croda family and our partners as we strive to meet our ambitious 2030 Commitments.

A few highlights from this report: **Climate Positive** we received validation of our Science Based Target, aligned with a 1.5°C scenario, only the third major chemical company to achieve this and declare the ambition to be net zero by 2050; **Land Positive** we are on track to meet our revised, more challenging 'land saved' target and are examining our broader impact and dependencies on nature and biodiversity; **People Positive** we find our lipid, adjuvant and excipient technologies included in trial vaccines for 15 out of the 24 priority diseases on the WHO's pipeline vaccine list; **Fundamentals** we achieved our target to ensure all our permanent and temporary employees are paid a Living Wage a year ahead of schedule.

Our sustainability journey and culture

I have been equally excited by the increasing level of engagement in our sustainability journey around the Croda world – we have founded regional Sustainability Champions Networks to catalyse more activity and sharing of best practices at a local level; we held our second Carbon Summit for senior leadership; and we delivered the first Purpose in Action Conference and Awards, case studies of many of the award winners are found throughout this report.

With such an ambitious agenda, not everything always goes to plan. We are disappointed to have not progressed further against our personal and process safety targets and have received a permit violation notice at one of our recently acquired locations. We are increasing resources and our focus on these areas as a matter of utmost priority.

Our leadership role in supporting the sustainability journeys of others

As we aim to be the most sustainable supplier of innovative ingredients, we recognise the leadership role we must play. 2021 saw us develop new partnerships to advocate for faster change and to support the sustainability journeys of others; we joined the United Nations Global Compact, demonstrating we align with the wider expectations on business in meeting the Sustainable Development Goals; and we are founding members of the Business Transformation Group at the Cambridge Institute for Sustainability Leadership, helping define a model for truly sustainable businesses of the future.

A Consumer Care and Life Sciences focused company

2021 saw dramatic changes in the external and internal landscapes for Croda. The ESG agenda moves on at pace, with mandatory climate-risk reporting and increasing focus on the business impacts on nature and social inequality. Croda's portfolio has transformed into a consumer and life sciences focused business with the sale of the majority of our Performance Technology and Industrial Chemicals business, expected to close summer 2022. In anticipation of these changes the Executive Committee spent significant time considering the impact on our sustainability strategy. They concluded that we will retain the same level of ambition across our Commitment, despite the changing portfolio, and identified areas where we will take even more ambitious action in the future.

Finally, I would like to recognise and thank the huge efforts of everyone in delivering the 2021 progress towards meeting our Commitment, despite dealing with various challenges at work and at home.

Phil Ruxton
Chief Sustainability Officer

Purpose in Action

Embedding our Purpose, Commitment and Difference

Our Purpose in Action awards

Between July and September our Purpose Implementation team continued engaging all employees by organising a virtual conference series, with webinars delivered by regions, functions and sectors across the Croda world. Sessions were available on demand with content accessed 4,714 times by employees, helping to further embed Our Purpose, Commitment and Difference across the organisation. The event culminated in the "Our Purpose in Action" awards ceremony,

shining the spotlight on employees and teams around the world who had driven action towards achieving our Commitment or demonstrated they were living our values. The awards were well received, with 148 global entries. The eight winners were selected by a judging panel comprising of Executive and Sustainability Committee members and announced by our CEO Steve Foots. Winners were awarded £5,000 to give to a charity of their choice and these charities were also shortlisted for the Croda Foundation Charity of the Year, see page 33. Look out for some of these winning entries highlighted in case studies throughout the report.

Board and Executive Committee oversight

Our two most senior Committees, the Board of Directors and Executive Committee, are ultimately responsible for our financial and non-financial performance. They maintain an active role in ensuring sustainability remains an integral element of our business strategy. Phil Ruxton, Chief Sustainability Officer, reports into the Executive Committee and chairs our Sustainability Committee.

In 2021 our CEO Steve Foots led the Executive Committee in a review of our sustainability strategy. This was supported and informed by the Sustainability Committee and also included representatives from our Board and the investor community. The review considered the rapidly changing external environment and the transformational organisational changes underway in Croda. Our Board has also given sustainability significant focus, conducting a full review of progress against our Commitment in December 2021.

Sustainability Committee

To ensure ownership of our Commitment and 2030 KPIs across Croda, the Sustainability Committee was formed in 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 as well as Group communications and recommendations to further develop our strategy.

It comprises members of the Executive Committee and senior leaders from across Croda, with each member responsible for delivery of specific 2030 targets. Expert resource is provided by Group Sustainability and third-party partners. The Sustainability Committee met five times in 2021.

Measuring and reporting non-financial KPIs

We have developed the detailed metrics and reporting methodologies behind our 2030 targets and applied the principle of placing responsibility to collect and approve data as close to source as possible. We recognise the increasing importance of the accuracy and integrity of this non-financial data for all stakeholders. Since 2019, our greenhouse gas (GHG) emissions have been independently assured to a reasonable verification level by Avieco. Work continues to ensure the rest of our non-financial data is audit compliant as and when required. In 2021 we invested in market-leading technology to automate the collation and internal reporting of these metrics and optimised the business processes required to maintain the data, providing training for all employees holding data entry and validation responsibilities, see page 38.

2021 reporting parameters

This report covers the sustainability performance of Croda International Plc for the period 1 January 2021 to 31 December 2021. The scope of this report, and data within it, is all operations wholly owned for the full 12-month period, plus those operations where we have significant management influence due to a majority shareholding. As of 31 December 2021, Croda employed 6,135 people across 105 locations in 39 countries.

Culture and employee engagement

We believe our ambitious and public commitment to use Smart science to improve lives™ is inspiring and encouraging changes in employee behaviour, uniting our people in helping to deliver a more sustainable future.

Through constant communication, enabling and recognising employee-led initiatives and sharing best practices and learnings we are increasingly engaging all our employees in our sustainability journey.

In 2021 we formed regional Sustainability Champions Networks of enthusiastic employees with a passion for sustainable improvements and engagement with their colleagues. These voluntary networks will be used to support local management teams to develop and deliver local sustainability plans, as well as encourage and facilitate idea generation and execution, across all Croda locations.

Our Sustainability Committee

Phil Ruxton
Chair and Croda Foundation



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



Michelle Fargen
Scope 3 raw materials and
Sustainable Procurement



Ian Tooley
Carbon Cover and Sustainable
Innovation



Murali Duvvuri
Regional Head and Employee
Engagement



Mine Enustun
Product Stewardship



Mark Robinson
Reducing Emissions, Health
and Safety, Environmental
Stewardship



Dave Cherry
Land Use and Crop Science
Innovation



Julia Creasey
Responsible Business,
Communications and ESG
Reporting



Freek Snieders
Health and Wellbeing



Sandra Breene
President Regional Delivery



Nick Challoner
Chief Scientific Officer



Our Commitment

We are committed to being the most sustainable supplier of innovative ingredients. We will create, make and sell solutions to tackle some of the biggest challenges the world is facing. By 2030 we will be Climate, Land and People Positive.

In 2020 we launched our Commitment, externally benchmarking our targets with the support of the Cambridge Institute for Sustainability Leadership to ensure our ambitions align with expectations of a sustainability leader in our industry. Ours is a restorative strategy, designed to ensure that planet and society are better as a result of our activities, and we are not just mitigating against negative impacts.

We have important KPIs outside of Climate, Land and People; we believe these Fundamentals are crucial to the success of our business. These targets represent the required social licence for a multinational manufacturing company like Croda to operate in 2030.

Aligning with the UN SDGs

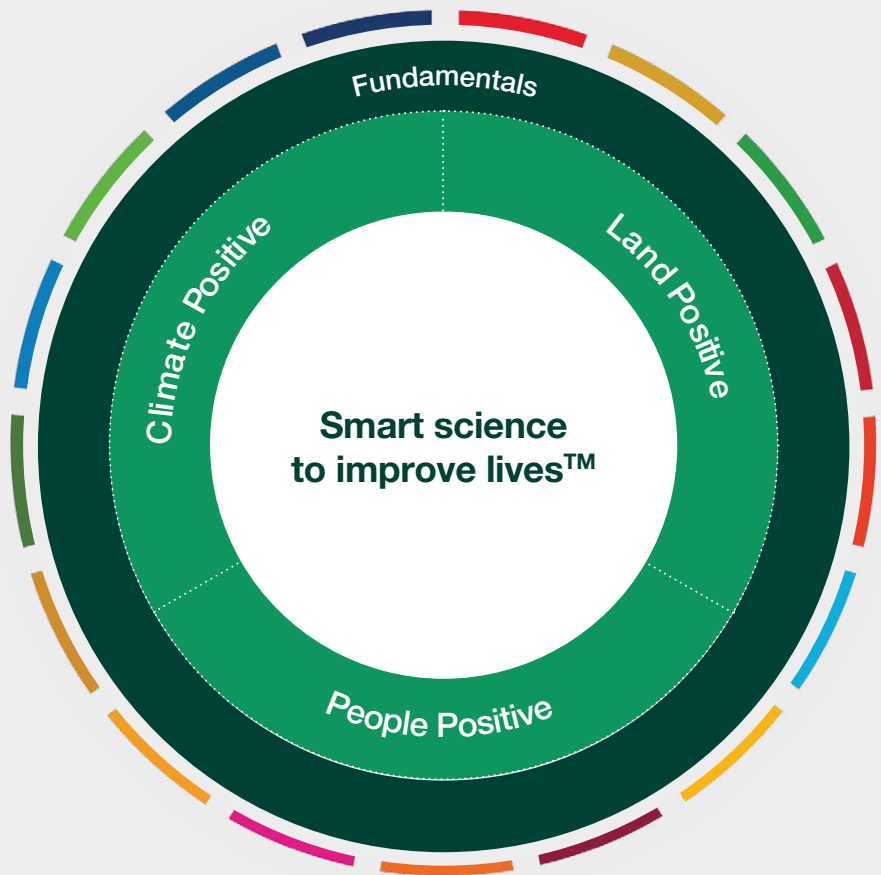
The United Nations Sustainable Development Goals (SDGs) underpin our Commitment. We have identified 23 SDG targets from 169, across nine goals, that are drivers of our strategy: those where we must reduce our negative impacts and where we can make the biggest positive contribution. These are grouped around the themes of climate, nature and society, hence our Commitment to be Climate, Land and People Positive.

Alignment with SDG 17 applies across our Commitment. Just as partnerships are critical to the success of the UN Sustainable Development Agenda, achieving our 2030 Commitment is dependent on productive partnerships with all our stakeholders. Other SDGs and their targets are no less important; whilst they are not driving our strategy, we contribute to achieving them through our Fundamental objectives and Croda Foundation.

Refreshing the strategy and resourcing for execution

A review of our sustainability strategy by the Executive Committee in 2021 resulted in re-committing to the highest level of ambition across all our 2030 targets, despite a changing business portfolio. We also developed plans to build on our strategy, account for new issues of importance to our stakeholders (see materiality page 14) and prioritise resources to ensure we excel in execution and engagement.

Our approach to providing resources to meet our 2030 targets follows the Croda model of decentralising as far as possible to be close to the point of need/action. Our central Group Sustainability and Sustainable Sourcing functions provide expertise and manage third-party relationships. In 2021 we deployed our first dedicated sustainability resources in the sectors and regions, and plan to double this level of resource in 2022, as well as ensuring all relevant employees have sustainability objectives and develop the skills to support this.



Measuring our growth vs the SDGs

Having previously identified the SDG targets that directly connect with our Commitment (see Sustainability Report 2020 page 11), this year we have mapped out how those SDG targets can be impacted through the use of our products in the markets in which we operate, considering our product offering into those markets and the primary supply chains and operations that provide them.

We plan to continue this assessment in the coming years to develop a means of assessing our revenues and profitability by SDG target. The table below presents a summary of the SDG targets our activities impact, broken down by sector and business unit:

SDGs	Consumer Care				Life Sciences			PTIC		
	Beauty Care	Beauty Actives	Home Care	Fragrances & Flavours	Seed Enhancement	Crop Protection	Health Care	Energy Technologies	Smart Materials	Industrial Chemicals
8	8.5	8.5	8.5	8.5						
12	12.2	12.2	12.2	12.6	12.2	12.2	12.7	12.7	12.2	12.2
	12.7	12.7	12.7	12.7	12.7	12.7			12.7	12.7
13	13.2					13.2		13.2	13.2	13.2
15	15.2		15.2	15.2		15.2			15.2	15.2
	15.5	15.5	15.5	15.5		15.5	15.2		15.5	15.5
3	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
4				4.3						
5		5.5		5.5						
6	6.4		6.3	6.4	6.3	6.3		6.3	6.3	6.3
			6.4			6.4				
7	7.2		7.2		7.2	7.2	7.2	7.2	7.2	7.2
8				8.8						
9	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
12	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
2					2.3	2.3				
					2.4	2.4				
3	3.4						3.3			
							3.4			
7	7.3		7.3		7.3	7.3	7.3	7.3	7.3	7.3
13			13.2		13.2	13.2	13.2	13.2	13.2	13.2
14	14.1	14.1	14.1		14.1	14.1		14.1		
15					15.3	15.3				

Value Chain

Operations

Products & Services

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.



Climate Positive by 2030

Reducing Emissions			
Objectives	Targets	Milestones and metrics	2021 progress
<p>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.</p>	<ul style="list-style-type: none"> By 2030, we will have achieved our SBTs, reducing scope 1 and 2 emissions by 46.2% from a 2018 baseline, in line with limiting global warming to 1.5°C, and reducing upstream scope 3 emissions by 13.5% Thereafter, by 2050 we will be a net zero organisation 	<ul style="list-style-type: none"> 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 	<p>7 AFFORDABLE AND CLEAN ENERGY SDG 7.2</p> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE SDG 9.4</p> <p>13 CLIMATE ACTION SDG 13.2</p> <ul style="list-style-type: none"> Absolute scope 1 and 2 emissions have reduced 12.7% since 2018, despite a 5.8% increase in output volume, as we decouple business growth from environmental impact Non-manufacturing sites were engaged in roadmap setting with the support of regional champions, with 25% completed
Carbon Cover			
Objectives	Targets	Milestones and metrics	2021 progress
<p>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.</p>	<ul style="list-style-type: none"> By 2030, use of our products will avoid four times the carbon emissions (scope 1, 2 and 3) associated with our business – our 4:1 carbon cover 	<ul style="list-style-type: none"> Two million tonnes of CO₂e emissions savings delivered through use of our products by the end of 2024, which will be externally verified 100% of our product portfolio evaluated for downstream scope 3 impact by the end of 2024 	<p>7 AFFORDABLE AND CLEAN ENERGY SDG 7.2</p> <p>13 CLIMATE ACTION SDG 13.2</p> <p>17 PARTNERSHIPS FOR THE GOALS</p> <ul style="list-style-type: none"> 951,000 tonnes CO₂e were avoided through the use of ingredients attached to verified case studies, giving a carbon cover ratio of 0.8:1 80% of our product portfolio has now been evaluated, identifying further carbon saving benefits in use
Sustainable Innovation			
Objectives	Targets	Milestones and metrics	2021 progress
<p>We will accelerate the transition to bio-based products, moving away from fossil/petrochemical feedstocks.</p>	<ul style="list-style-type: none"> By 2030, over 75% of our organic raw materials by weight will be bio-based, absorbing carbon from the atmosphere as they grow 	<ul style="list-style-type: none"> 71% (rolling three-year average) of our organic raw materials to be bio-based by the end of 2024 	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION SDG 12.2</p> <p>17 PARTNERSHIPS FOR THE GOALS</p> <ul style="list-style-type: none"> Our use of bio-based organic raw materials increased by two percentage points from 67% to 69% A multidisciplinary working group identified all current petrochemical-based raw materials that could be replaced with bio-based alternatives

Reducing Emissions

SDG Targets:
7.2, 9.4 and 13.2



The urgent need for society to tackle the climate emergency was highlighted during 2021. The United Nations Conference on Climate Change (COP26) highlighted that governments and businesses must both play their part in moving from ambition to action if we are to limit global temperature rises to no more than 1.5°C above pre-industrial levels and prevent the most catastrophic effects of climate change.

Leadership and advocacy

As a signatory to the UN Global Compact Business Ambition for 1.5°C and member of the Race to Zero campaign, we are demonstrating leadership on climate action in an industry that is recognised as hard to decarbonise.

In September 2021 we signed an open letter to all G20 leaders urging them to keep the Paris Agreement's 1.5°C goal within reach. This was signed by more than 600 businesses across all G20 countries stating that the G20 has a collective responsibility and opportunity to demonstrate global leadership to decisively address climate change.

Lending our voice to urge leaders and other organisations to follow our sustainability leadership is not new for Croda. In 2020 we also signed an open letter to the UK government urging a clean and just recovery plan following the COVID-19 pandemic, and most recently have urged the UK government to set out a comprehensive net zero strategy.

In support of the aims of COP26, we presented at many climate-focused events in 2021, including UNGC UK, discussing the route to net zero for manufacturing.

COP26 saw us not only focus our internal communications on this important event, sharing video clips recorded by our employees in attendance at the Green Zone, we also used it as an opportunity for our STEM team to further engage with schoolchildren on sustainability. We developed new material for our STEM Ambassadors to take into schools, highlighting the importance of COP26 and climate change, encouraging discussion about everyday changes we all can make to reduce our carbon footprint (see People Positive, page 33).

We have also carried out quantitative climate scenario analysis in the last year in alignment with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations (see page 25).

1.5°C science-based target validation

In July 2021 we became only the third major chemical company globally to have a 1.5°C science-based target validated. By the end of 2029 we will have reduced our operational (scope 1 and 2) emissions by 46.2% from a 2018 baseline.

With the majority of our emissions within our supply chain, we also had our scope 3 target approved by the SBT initiative: to reduce our upstream scope 3 emissions by 13.5% over the same time frame. The focus here is to engage and work with suppliers to reduce emissions associated with sourcing raw materials (see Supplier Partnership, page 41) alongside transportation and distribution of products to our customers.

By taking action to achieve these targets within our operations and supply chain we can support our customers and enable them to meet their own GHG emission reduction targets.

Emissions and intensity charts

Since 2018, our baseline year, our total scope 1 and 2 greenhouse gas (GHG) emissions have reduced by 12.7%. Within this, scope 1 emissions increased by 4%, whilst we have seen a 60% reduction in scope 2 emissions. This has been driven by a switch to renewable electricity across our manufacturing sites. In 2021 we engaged with Accenture to help us explore electricity sourcing options for our manufacturing sites in Asia, where availability of green electricity is more challenging. Renewable Energy Certificates (REC) purchases at Thane, India and Singapore have led to a significant reduction in scope 2 emissions this year.

Scope 1 and 2 GHG emissions from our UK operations were 34,559 TeCO₂e in 2021 (2020: 35,692 TeCO₂e) representing approximately 20% of our global GHG emissions.

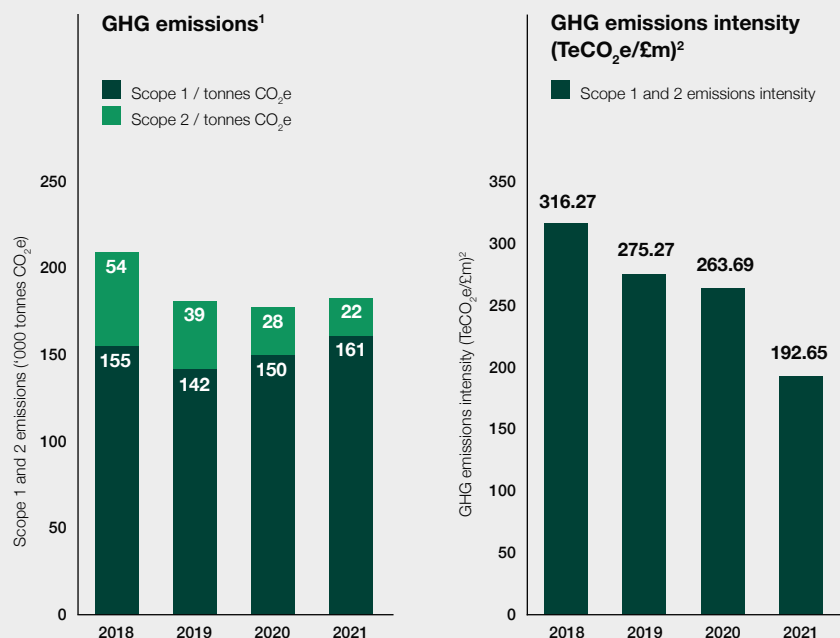
Our chosen measure of GHG emission intensity divides our GHG emissions (market-based scope 2 emissions) by value added², a measure of our business activity. Since 2018, our GHG emissions intensity has improved by 39%, illustrating how we are decoupling growth from our environmental impact.

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

Energy consumption and efficiency improvements

In 2021 we consumed 1,178,117,781 kWh (2020: 1,125,612,495 kWh) of energy across our global operations. This included 219,130,734 kWh (2020: 222,759,173 kWh) consumed by UK operations.

As part of our strategy to improve the efficiency of energy consumption, 36 projects were implemented globally, realising 39,514,274 kWh of annualised efficiency improvements, equivalent to 9,063 TeCO₂e avoided emissions.



1. Our GHG inventory has been completed in accordance with the Greenhouse Gas Protocol, Corporate Accounting and Reporting Standard (Revised Edition). Scope 1 emissions are calculated using Defra Government emission conversion factors for greenhouse gas company reporting. Scope 2 emissions are market-based.
2. Value added is defined as operating profit before depreciation and employee costs at reported currency.

Reducing Emissions *continued*

Decarbonisation roadmaps

In 2021 our manufacturing sites have continued working to develop and refine decarbonisation roadmaps. These will ensure we can achieve our SBT through energy efficiency projects, moving to alternative fuel sources and innovating to find less energy-intensive ways to manufacture. By the end of 2022 every location in the Croda world, including all offices, will have a validated roadmap.

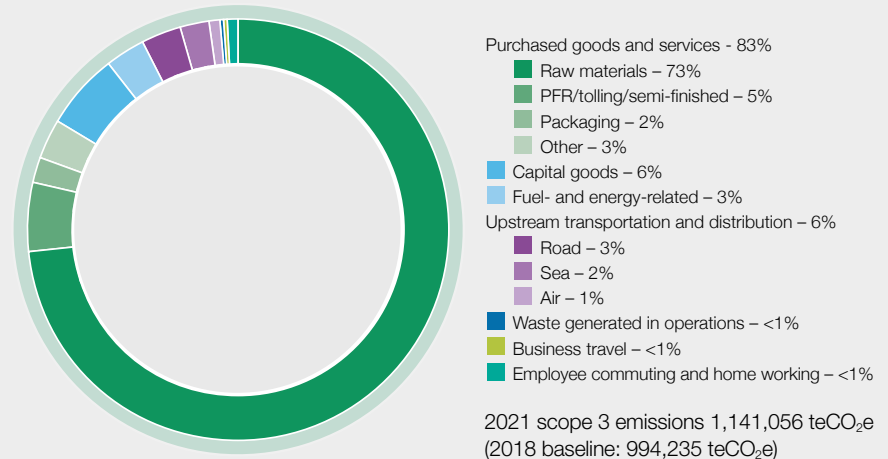
In this way we have started to move from ambition to action, and are seeing projects focused on carbon reduction already being implemented. For example, the biomass boiler at Hull (see case study) and a low carbon sulfate-free surfactants expansion project at our Rawcliffe Bridge manufacturing site (page 4). Use of an internal shadow carbon price (2021: £50/tonne CO₂e) has supported these carbon-focused investment proposals.

Projects at manufacturing sites alone will not get us to our target. We also need our sector teams to develop innovative, low-carbon alternatives to our existing ingredients, for example, looking at the opportunities of moving to biotechnology, as well as evaluating and managing product portfolios for carbon intensity. To enable this, our finance team has developed a methodology to automate calculation of scope 1 and 2 emissions at a product level, using existing product cost and site emission data. We can now provide the major business sectors with scope 1 and 2 product level carbon footprint data.

For the first time, 2021 saw the major sector teams present their carbon budget to the Executive Committee alongside their financial budget. Forecasting their carbon emissions for 2022 based on projected growth, sector teams presented actions to ensure emissions remain within budget and are aligned to achieving our SBT. In 2022 we will add scope 3 emissions associated with raw materials into these calculations, further improving sector visibility of their carbon footprint to enable better decision making.

Cradle-to-gate carbon footprint data for our entire product range will add huge value internally and with our customers.

2021 scope 3 emissions by category



Industry leading visibility of scope 3 emissions inventory

In 2021 we undertook a project to update our scope 3 emissions inventory, working with Avieco. This enabled a clear view of our supply chain emissions and allows us to identify areas for improvement. “The scope 3 enhancement has significantly improved Croda’s footprint reliability through using best practice and more primary supplier data,” said Julie Craig, Chief Commercial Officer, Avieco. “Granularity and repeatability have been key to the process and the improvements will enable Croda to better track their progress.”

In completing this work, we have identified that our 2018 scope 3 baseline is 104,461 tonnes CO₂e lower than originally calculated. This was primarily due to the accuracy of emission factors for our capital goods scope 3 category. Moving to a greater level of granularity and distance-based data for business travel has also resulted in a lower baseline for this category. However, through increased accuracy, we have identified a greater number of emissions associated with our purchased goods and services. This is our largest category, making up 83% of our upstream scope 3 emissions, the majority of which is raw

materials. Through this work, we have also included emissions associated with our packaging for the first time.

Life cycle assessment (LCA) studies for key raw materials were updated in 2021. For palm oil and palm kernel oil derivatives, this now includes the ability to represent the reduction in carbon footprint associated with purchasing RSPO certified palm, avoiding 23,949 tonnes CO₂e in 2021 compared with 2018 purchasing patterns. With strong support from our suppliers, 40% of our GHG emissions attached to raw materials are covered by these supply chain specific studies. We also have volume-based industry-recognised LCA figures attached to a further 35% of our raw material GHG emissions.

Our 2021 scope 3 emissions are 14.8% higher than our baseline year of 2018. This is largely due to greater investment, and increased emissions associated with raw material purchases, due to increased production volumes. Business travel reduced by 75% due to the pandemic. This increased granularity allows us to identify carbon hotspots in our supply chain, and work with suppliers to drive emissions reductions (see page 42).

Purpose in Action



See Embedding our Purpose, Commitment and Difference

P16

Hull biomass boiler

Climate Positive: Our Purpose in Action award winner

As part of our SBT commitment, we have partnered with AMP Clean Energy to install an 11MW biomass system at our Hull manufacturing site, a great interim step on our journey to net zero until alternative fuel sources like hydrogen are viable. The biomass project, which will supply steam for the entire site, is fuelled by locally sourced and sustainably managed forestry residues. There is no impact

on landfill as ash residues are routed into sustainable by-products, such as soil improvers and building blocks. Through a 20-year energy supply agreement reliance on fossil fuels will be reduced, as well as a benefit from low carbon heat over the long term, reducing the site’s scope 1 emissions by 60% and saving 10,000 tonnes of CO₂e emissions annually. The cross-functional project team worked hard to tight deadlines to make this innovative project happen: the first deployment of such technology within the Croda Group. The judges felt they were worthy recipients of a Climate Positive Award at our first Purpose Awards ceremony.

Carbon Cover



Over the last three years we have been working to quantify carbon emissions savings through the use of our products, with the goal of reducing or avoiding four times the carbon emissions associated with our business. We are already working towards this target, discovering and accounting for avoided emissions using existing ingredients, as well as developing new products that not only have low carbon footprints but also deliver in-application carbon savings.

In 2021 we identified five new case studies where emissions were avoided, including a new product launched in 2021. The emissions savings of this new product were revealed during its sustainability assessment, part of the new way of working for our innovation teams to support our Commitment.

The four other products were identified by our Carbon Cover working group, set up in 2021 to drive the discovery of new case studies and identify avoided emissions for larger product and application areas. The group assessed around 80% of our product portfolio for potential carbon savings in use, which led to our first multi-product, multi-application assessment, encompassing all products sold by our Crop Protection, Plant Impact and Incotec businesses.

Our total avoided emissions in 2021 linked to the sales of ingredients from these case studies, and our product case studies validated in 2020 and 2019, is 951,000 tonnes CO₂e. This leads to a carbon cover ratio of 0.8:1. All case studies were aligned with our existing methodology for quantifying and reporting avoided emissions, as externally validated by Avieco.

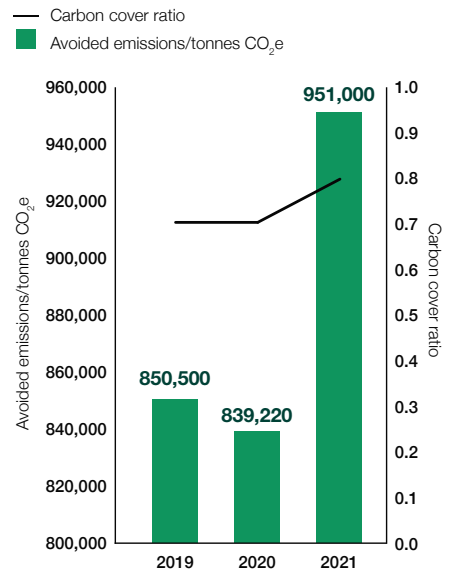
We have seen an increase in our overall carbon cover ratio compared to 2020. Despite the five new case studies, the increase in avoided emissions is modest, mainly because of a slowdown in the automotive market, where our polymeric friction modifiers in engine oils provide significant emissions avoidance. Grouped case studies that cover larger product volumes, such as the one developed in 2021 on land saving, alongside innovation to develop new products offering avoided emissions in use, will be key to meeting our 2030 target.

Carbon cover assessment

c.80%

of product portfolio assessed identifying further carbon savings in use

Avoided emissions/tonnes CO₂e



Total avoided emissions in 2021

951,000

tonnes CO₂e

The five product case studies validated in 2021:

Coltide™ Radiance (ironing)

Our laundry additive reduces the time required to iron clothes, so reducing overall energy consumption for the task and lowering emissions.



Nutrivent Balance™

Our hair care product helps reduce sebum production, helping hair look cleaner for longer. This offers the possibility for consumers to wash their hair less often, leading to a reduction in water consumption, and so the energy required to power and heat the water.



LoVOCcoat

This surfactant can be used as an emulsifier in solvent-based paints. Emissions are avoided by using lower VOC containing components (water-based) in place of higher VOC (solvent-based) ones, whilst maintaining the performance characteristics of the final paint product.



Tween™ 24

Our Crop Protection adjuvant works by enhancing the bioavailability of the active ingredient within a fungicide formulation. The actives work more efficiently, and additional yield can be attained. Increasing yield leads to more efficient land use, which can in turn reduce carbon emissions, and water consumption.



Land use savings

As explained on page 27, our Crop Protection, Plant Impact and Incotec products were assessed for their impact on land use. More efficient use of land leads to lower emissions, including saving resources such as pesticides, fertilisers, energy for farming equipment, and more.



Sustainable Innovation

SDG Target:
12.2



In 2021 our use of bio-based organic raw materials increased to 69% from 67% in 2020. This was due to increasing sales of our ECO surfactants. Our target is for our use of bio-based organic raw materials to reach 75% by 2030, three times that of the European Chemical Industry target of 25%. Bio-based materials sequester carbon as they grow, so using them allows us to minimise our impact on the environment by designing lower-footprint products, originating from renewable carbon sources.

2021 saw additional progress made towards this target by a new multidisciplinary team, comprising members from our R&D and procurement functions. This team was created to identify new opportunities through innovation and collaboration and further increase our use of bio-based raw materials. The group identified raw materials currently derived from petrochemical sources that could be replaced with bio-based alternatives. Further investigations in 2022 will determine how these changes can be made while maintaining the same or bettering the performance of our products.

In addition to substituting existing virgin fossil raw materials for bio-based ones, our R&D teams have been developing new products from renewable origins. This includes scaling our biotechnology capabilities with the expansion of our biotechnology laboratory footprint in the UK. Offering an increasing number of products made using biotechnology is another way in which we expect the proportion of our bio-based organic raw materials to grow.

We carefully assess the whole biotechnology manufacturing process for each new ingredient to ensure we can support the sustainability benefits demanded by our customers. A Sustainability Impact Assessment (SIA) in 2021 showed that biotechnology could bring further sustainability benefits. Biotech processes use lower reaction temperatures than conventional chemical processes, leading to reduced energy consumption and opportunities to use energy from low carbon sources. Additional benefits include reducing the need for chemical processing, reducing or removing the need for catalysts, and improved process safety.

Research and Development

In 2021 we continued to embed sustainability into our ways of working within our R&D teams. This included assessing the impact of all new R&D projects against the UN Sustainable Development Goals (SDGs) and maximising bio-based content where possible.

Throughout the year our scientists received training on sustainability topics, such as how to assess bio-based content and the science behind biodegradability. Work was also undertaken to align our existing procedures across global R&D teams to ensure sustainable innovation remains at the forefront of all new developments.

This work was led by our Innovation & Sustainability Champions who are helping to embed sustainability across our global R&D team. They play a central role in the adoption of sustainable practices within the function, sharing training, providing regional expertise and helping translate important documents into local languages. For example, our Sustainability Checklist for new products was translated into Chinese for our growing team in the region.

In 2021 the majority of the new, patented and protected products (NPP) that we launched were 75% bio-based or greater, highlighting the crucial role our R&D teams play in meeting our 2030 Commitment. They are not only responsible for designing low-footprint bio-based products that meet our markets' demanding performance and quality needs, but also ones with sustainability benefits in use, as seen with our surfactant LoVOCOat™, which helps to reduce VOCs. In 2022 we plan to launch more products that enable carbon savings in use and have a bio-based content greater than 75%.



Our R&D teams now assess the impact of all new projects against the SDGs.



As Champions, we create awareness, encourage and facilitate the use of our sustainability checklist across R&D teams. This drives understanding of the importance of NPD project evaluation and output to ensure alignment with our sustainability goals.

Anu Chaphekar
Research and Technology Manager

Task Force on Climate-related Financial Disclosures (TCFD)

To help us understand the potential impact of climate change on our business and to inform our future strategy and planning, we have conducted scenario analysis looking at both transition and physical risks across three different scenarios, between a 1.5°C net zero 2050 orderly scenario, up to a hot house world +3°C scenario.



As part of the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, further detail on this scenario analysis can be found in our Annual Report and Accounts page 40.

Transition risks

Of the risks modelled as part of our scenario analysis, the potential cost of increased carbon taxation has the most significant impact so far. The risk is already mitigated to moderate levels due to our 1.5°C SBT, and our commitment to be net zero as an organisation by 2050.

Our current transition plans stretch out to 2030, and we are now beginning work on our 2050 decarbonisation plans, starting at one of our top 10 manufacturing sites, Rawcliffe Bridge in the UK (see case study).

Our use of a shadow internal carbon price (£50/tonneCO₂e) as part of every capital expenditure proposal, helps us to understand the future OPEX impact associated with carbon taxation, and helps support the financial case for pure decarbonisation projects.

Since 2019 we have had an ESG clause within our bank facility. On achieving agreed decarbonisation targets we retain a small percentage of the interest resulting in a fund which must be spent on decarbonisation projects, supporting our transition to a low carbon future, and mitigating these associated transition risks.

UK Government funding at Rawcliffe Bridge for net zero decarbonisation roadmap

In October 2021, we successfully applied for the The Department for Business, Energy and Industrial Strategy (BEIS) Industry of Future Programme (IFP). Qualifying UK manufacturing sites need total carbon emissions in excess of 10,000 tCO₂e/year and following application, our Rawcliffe Bridge site was selected to be part of the study.

This scoping study will involve using an engineering delivery partner to develop a net zero roadmap for 2050 for the site. During this roadmap process, decarbonisation technologies will be identified, these could include commercially available technologies but also those that require further R&D and innovation. Following completion of the scoping study, BEIS may provide further support to sites involved in the programme in the form of follow-up activities/funding.

Physical risks

Of the physical risks assessed so far, the increase in natural raw material pricing, in particular palm, could lead to moderate to high levels of risk by 2045 in a 1.5°C net zero by 2050 scenario, due to increasing demand for palm oil as an alternative to fossil-based oils.

Our Commitment to be Climate Positive means that we will increase our use of bio-based raw materials. Through our Commitment to be Land Positive, we will enable more land to be saved than is used to grow our crop-based raw materials. Through innovation, we will help customers to mitigate the impact of climate change, and increase the availability of land suitable for growing crops, all actions that will mitigate the physical climate related risks associated with crop production within our supply chain and for our customers.

Reducing water use impact at Mevisa

Water is the primary medium through which we will feel the effects of climate change¹. Water availability is becoming less predictable in many places, and in some regions droughts are exacerbating water scarcity.

Situated in a Natura 2000 site² experiencing water shortages due to prolonged droughts, our colleagues at our Mevisa manufacturing site in Girona, Spain, have taken a proactive approach towards building resilience against increasing water stress and mitigating the physical risks of climate change. This includes extensive upstream and downstream ecosystem studies assessing flow regimes, vegetation cover, species richness and trophic structures. The site also monitors the quality of aquifer and riverine water to enhance local water quality through site discharges, evaluating water risks to prioritise future improvements, and exploring rainwater harvesting opportunities.

Since 2018 Mevisa has halved its water use thanks to investments in closed loop cooling towers which operate fully with recycled water, while future investments will focus on increased recycling of high conductivity water reaching the effluent treatment plant.

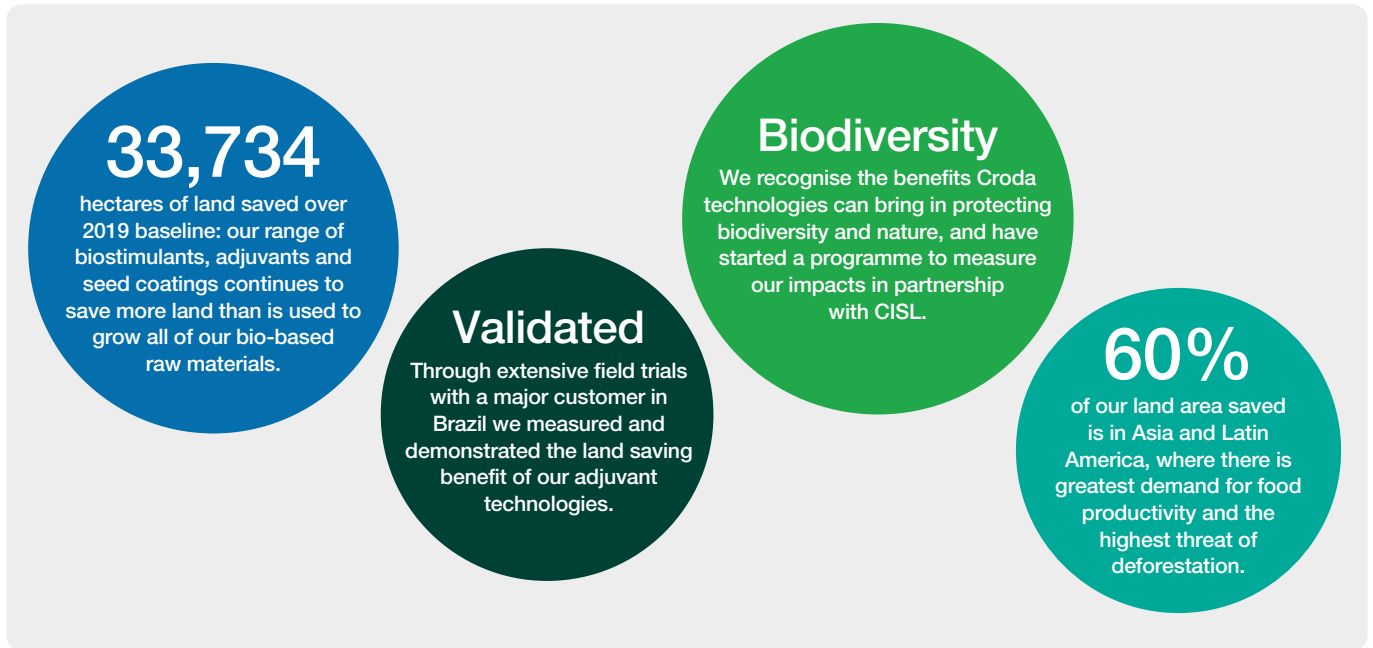
1. www.unwater.org

2. As defined by the European Commission, Natura 2000 is the largest coordinated network of protected areas in the world, core breeding and resting sites for rare and threatened species.



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 protect biodiversity and to mitigate the impact of climate change and land degradation, increasing the availability of land suitable for growing crops.



Land Positive by 2030

Land Use		SDG 2.3, 2.4		SDG 12.2		SDG 15.2, 15.3	
Objectives	Targets	Milestones and metrics	2021 progress				
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.	<ul style="list-style-type: none"> 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 save at least 200,000 hectares per year more than in 2019 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> We continue to work with our key suppliers to gather details of improvements in yield, GHG data, soil health, water consumption and protection of biodiversity We have validated our land-saving data for our adjuvant technologies through extensive field trials with a key customer in Brazil We saved 33,734 hectares per year more than our 2019 baseline year and remain on track to hit our 2024 intermediate milestone and 2030 target 				

Crop Science Innovation		SDG 13.2		SDG 15.2, 15.3		SDG 17	
Objectives	Targets	Milestones and metrics	2021 progress				
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.	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> By the end of 2024, we will have brought 10 qualifying technological breakthroughs to market 	<ul style="list-style-type: none"> 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 a second microplastic-free seed coating technology, extending our impact into key field crop markets Our research programmes were reconfigured to focus more explicitly on sustainability-led technologies that will drive our increasing benefits for nature and biodiversity We have secured our first commercial sale of microplastic-free seed coatings 				

Land Use and Crop Science Innovation

SDG Targets:
2.3, 2.4, 12.2, 13.2, 15.2, 15.3 and 15.5



Benefits for nature and biodiversity

We are increasingly aware of the benefits that our technologies can bring in protecting nature and biodiversity, and are making this an increasing focus of our innovation. We also recognise our responsibility to minimise the negative impacts we have on nature through our operations and supply chain.

All business is dependent upon nature, or impacts nature in some way. At the simplest level, land use may be that occupied by sites and operations. However, in many businesses the greater land use impact lies upstream in the supply chain with the sourcing of raw materials. Today's complex global supply chains make it challenging for any organisation to perform these calculations.

In 2021 the positive yield impact of our biostimulants, adjuvants and seed coatings, and the use-rate of those products per hectare of land, saved the equivalent of 125,958 hectares.

Accelerating our move away from fossil/ petrochemical feedstocks whilst also maximising the amount of land available for crops meant that, three years ago, we wanted a detailed understanding of our land footprint. This quantitative measure is essential for any business to set a baseline to understand its impact on nature and biodiversity. Equally important is an understanding of how our activity may impact biodiversity, deforestation, food security, soil health and water consumption.

We consider this holistic view of our land usage our 'land budget'.

This marks our continuing journey to our Land Positive Target of at least 200,000 hectares above the 2019 baseline.

Land footprint is a prerequisite to understand our impact on nature and biodiversity.

Demonstrating our land-saving impact

The effective delivery of active ingredients is increasingly reliant on incorporating adjuvants into plant protection formulations. Adjuvants are important not only in targeting the delivery of active ingredients but also in reducing negative impact on nature and biodiversity. Tween™ 24 is a novel adjuvant that can enhance the bioavailability of the active ingredient in a fungicide formulation, improving yield and reducing land and water used and associated CO₂ emissions. In partnership with a customer,

field trial studies were carried out in Brazil. Conducted over three growing seasons, the study showed how incorporating Tween™ 24 into a fungicide formulation against soybean rust can significantly improve yield and reduce land use, as well as identify associated water and carbon savings. As a result of the yield improvement, a greater mass of crop can be produced per hectare, lowering the land area required to grow one tonne of soybeans; this can be expressed as a land saving. This land would typically require energy inputs, all of which will have associated carbon emissions; in reducing the land required to grow the crop, significant carbon and water savings can be achieved, these have been externally validated by Avieco (see page 23).

These trials have validated the assumptions used to calculate our land-saving data for our adjuvant technologies, demonstrating that our assumptions are justified and, in fact, conservative.

Investing for better breakthrough innovations

Croda Crop Care opened its new Product Validation Centre, located in Holambra near São Paulo, Brazil, in 2021. This state-of-the-art facility includes laboratories and greenhouses and is focused on serving our agrochemical customers, validating and substantiating claims and results from our formulation, microbiology and seed treatment laboratories.

Managed by a specialist team that includes agronomists, chemists and biologists from Croda businesses such as Crop Protection, Incotec and Plant Impact, the centre has the highest level of technical expertise, ensuring the generation of realistic and robust data. This specialist team now all under one roof enhances our ability to innovate and explore the use of digitalisation and new technologies to create more sustainable solutions for our agrochemical customers.

In 2021 our crop technologies delivered land area savings equivalent to 150,000 football pitches.



A 'nature positive company' is a company which takes action at scale to reduce the drivers of the degradation of nature, actively improve the state of nature itself (both species and ecosystems) and boost ecosystem services.

The Cambridge Institute for Sustainability Leadership (CISL)



Land Use and Crop Science Innovation *continued*

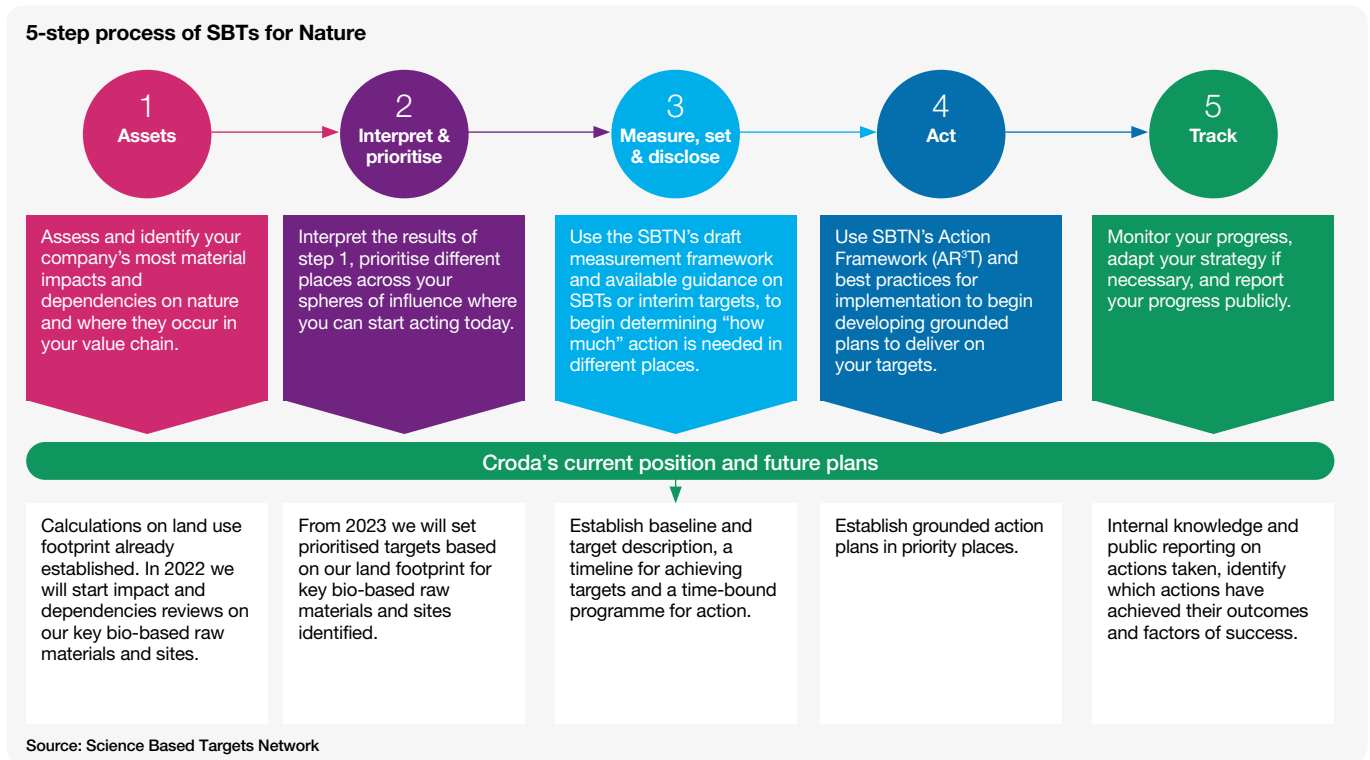
Value chain impacts

In the same way that scope 3 carbon embedded in supply chains is now an important focus, so too is the impact of business through its value chain. The Science Based Targets Network (SBTN) is developing guidance to set science-based targets for nature to define a clear pathway. This will enable value chains to address their impacts and dependencies on nature going beyond climate action to inform systematic solutions to reduce the risk of nature loss.

In 2021 we gathered in-house experts and took part in a workshop with Cambridge Institute for Sustainability Leadership (CISL) to develop our understanding of relevant and leading initiatives relating to nature. This included the concept of nature positive: requirements, challenges, and how it can be measured. Most importantly, it looked at developing a way forward on nature that will continue to deliver practical action in the field, further engage with employees, and enable a leadership position in line with emerging global biodiversity targets.

SBTN guidance describes a five-step process, starting with impacts and dependencies where we have a clear head start with our land budget metrics in terms of use and savings.

As we transform from Land Positive towards Net Nature Positive, we will better understand the ways that each of our major manufacturing sites and finished ingredients impact or depend upon biodiversity, and we will drive positive change in our raw material and supplier selection. Importantly, it will shape our customers' ingredient and supplier selection, and proactively contribute to their sustainability goals.



Purpose in Action

See Embedding our Purpose, Commitment and Difference P16

Global Digital Symposium

Innovative: Our Purpose in Action award winner

With the pandemic curtailing customer events and face-to-face meetings, we wanted to find new ways to reach our customers and continue supporting them with new ideas and innovation. Our Crop Care team hosted a three-day global Digital Symposium to communicate our sustainability ambitions and demonstrate the breadth of our technologies. During the event, our team of experts explored challenges and trends affecting the agrochemical industry. Through interactive live presentations and on-demand booths we demonstrated how Croda technologies can deliver more sustainable formulations. Topics shared with over 1,000 registrants included how microplastic-free solutions reduce the environmental impact of seed coatings, and the challenges and opportunities of formulating with biopesticides as part of integrated pest management systems.



Revitalising ecosystems, improving biodiversity and creating social and economic benefits for local communities.

Reforestation

Incotec, our Seed Enhancement business, and Land Life Company are collaborating in a pioneering project to accelerate global reforestation, embracing the demands of SDG 17, Partnerships for the Goals. This involves integrating Incotec microplastic-free smart coating technologies onto tree seeds, supporting scale up of reforestation efforts. These specialist coatings boost germination, increase resilience and survival, and enhance overall performance, and this is the first time such technologies have been applied to large-scale reforestation projects.

The first seeds are being introduced at sites in northern Spain, with the emphasis on planting where trees are needed most, revitalising ecosystems, improving biodiversity and creating social and economic benefits for local communities. Pending the outcome of this first trial it is expected that tens of thousands of pelleted tree seeds will be planted in different locations all over Europe starting in 2022.

Purpose in Action



See Embedding our Purpose, Commitment and Difference P16

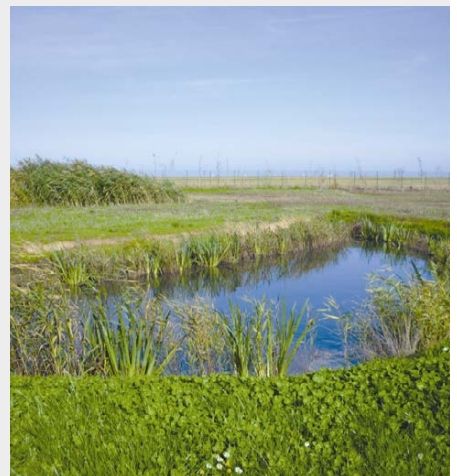
Biodiversity

Land Positive: Our Purpose in Action award winner

Natural wetlands are under threat in many locations, including France. Alban Muller, our recent acquisition for beauty botanicals, bought land adjoining its production site in France and for ten years has developed water treatment and biodiversity gardens. Developing banks and introducing certain plants encouraged the return of amphibians, while wooded ponds and hedgerows provide shelters for many bird, insect and small mammal species. Three hives and a beekeeping fallow area support colonies of bees and therefore pollination.

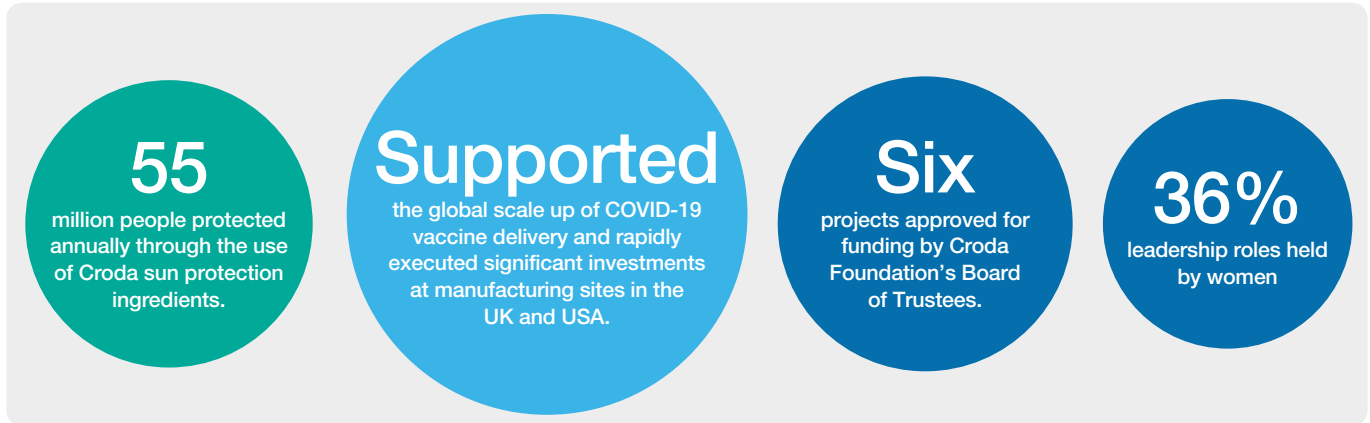
Water used in manufacturing is returned to the gardens, nourishing vegetation and supporting plant and animal biodiversity. As a result of the water gardens, the site has zero water waste for 300 days of the year. The project makes it possible to manage

effluents in a natural way without energy expenditure and with no negative impact on the environment – as well as helping with employee wellbeing.



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.



People Positive by 2030

Health & Wellbeing		SDG 3.3, 3.4, 17	
Objectives	Targets	Milestones and metrics	2021 progress
<p>We will use our smart science to promote healthy lives and wellbeing through the development and application of our ingredients and technologies.</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Developed a more detailed understanding of the projects in which our technologies are being used to develop WHO-listed pipeline vaccines Croda technology at various stages of evaluation in 15 out of the 24 pipeline vaccines, across 79 projects (2020: 32 projects) First novel sunscreen ingredients launched from Entekno partnership 55 million people protected annually through the use of Croda sun protection ingredients
Gender Balance		SDG 5.5	
<p>We will achieve gender balance in our business by focusing on recruitment and development opportunities to increase the number of women in leadership positions.</p>	<ul style="list-style-type: none"> By 2030, we will achieve gender balance across the leadership roles in our organisation 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Further progress made in reaching our gender balance target, with 36% of leadership roles now occupied by women (2018 baseline: 31%) Gender balance target incorporated for the first time in our long-term incentive plan for the most senior leaders (PSP) Croda main Board, as of February 2022, is gender balanced, with appointment of two new female non-executive directors
Improving More Lives		SDG 17	
<p>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.</p>	<ul style="list-style-type: none"> We will establish and fund a Croda Foundation to help improve one million lives in relevant communities 	<ul style="list-style-type: none"> Intermediate milestones for the Croda Foundation to be set during 2022 	<ul style="list-style-type: none"> First six projects approved for funding by the Croda Foundation Board of Trustees £2m additional restricted grant provided from Croda to the Foundation, to be invested in improving health infrastructure in regions with the greatest need Charity of the Year competition launched, and the British Heart Foundation became the first recipient of the £25,000 prize

Health and Wellbeing

SDG Targets:
3.3 and 3.4



Vaccine developments

Like 2020, much of the world's vaccine expertise in 2021 focused on COVID-19. Our teams at Avanti and Croda Denmark continued to further the use of our smart science in vaccine adjuvants and drug delivery excipients to accelerate COVID-19 vaccine development. We saw many enquiries from around the world as vaccine development and production globalised. For example, our team in Indonesia worked with authorities to fast-track import of Croda ingredients as well as providing technical support to produce vaccines locally in response to escalating cases.

In addition, we continued to increase engagement with teams researching many WHO-listed pipeline vaccines. Thanks to our focus on these diseases, our technologies are included in even more vaccine candidates across a greater number of pipeline vaccines than in previous years. This takes us a step closer to our target of supporting vaccine development for 25% of WHO-listed pipeline vaccines and our 2024 milestone of 10 clinical phase III trials.

To support the global scale up of COVID-19 vaccine delivery, we made significant and rapid investments at manufacturing sites in the USA and UK. This will further facilitate increased capability and capacity to support WHO pipeline vaccines as they commercialise in the years ahead.

Preventing skin cancer

As part of our commitment to protect at least 60 million people annually from potentially developing skin cancer from harmful UV rays, 2021 saw the launch of the Solaveil™ MicNo® range, extending our range of mineral filters that are non-whitening on the skin. This novel range from our partnership with Entekno is inherently mild and non-irritant and there are no concerns around skin penetration. For the first time, it is possible to formulate highly transparent mineral sunscreen systems to meet the needs of consumers who want natural, clean sunscreens.

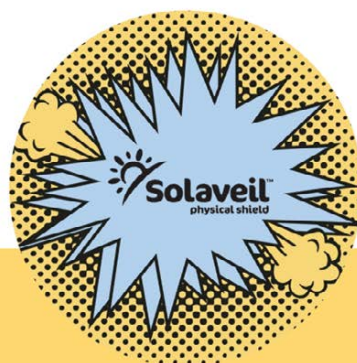
Supporting customers to improve their formulations was a focus area in 2021, developing new prototypes to meet specific local market needs. For example, we developed the Asia Preferred Sensory kit, a series of UV protection formulations that match the sensory profile of the leading commercial benchmarks in the region.

In 2021 our UV filters and boosters helped to protect 55 million people from potentially developing skin cancer from harmful UV rays.



Collaboration to deliver new vaccine adjuvants

In 2021 we established a strategic collaboration with the Danish government's life science research institute, Statens Serum Institute (SSI). This will enable accelerated trials of alternatives to traditional aluminium-based adjuvants. Our range of patented and novel adjuvants brings new opportunities to impact diseases where current adjuvant technologies have not resulted in effective vaccines. For example, one novel adjuvant enables vaccines to induce strong antibody responses against tuberculosis, chlamydia, group-A streptococcus, malaria, influenza, COVID-19 and RSV.



Solaveil™ Myth Busters

Myth Busters

For some, 2021 was a year of fear and misinformation in solar care, with many myths surrounding sunscreens and UV filters spread via social media and within our industry. Misinformation works against the goal of SDG 4: quality education and lifelong learning. As a result, we launched our Myth Busters campaign, tackling this issue through blogs, presentations and infographics. As an authority on UV filters and a trusted industry voice, we have a duty to debunk misinformation and endorse credible science, making people aware of the facts so they can protect themselves from harmful UV and potentially developing skin cancer.

Gender Balance

SDG Target:
5.5



We continue to measure progress against our gender balance targets with a focus on balanced shortlists. We are delighted to report that the number of women in leadership positions has increased by five percentage points since the 2019 baseline figure and is now 36% of the population. This year we also saw a 5% increase in the number of female process operators. As of February 2022, our Board is gender balanced – welcoming two new female Board members.

We also appointed a new female Chief Information Officer (CIO) and promoted several women into senior commercial and operational roles.

For 2022 we have introduced a specific gender balance target to our long-term incentive Performance Share Plan. While we will continue to promote and appoint on merit, we will also work to ensure we have balanced shortlists and create an environment where female employees can flourish, and believe this new incentive will help us achieve this.

Diversity and Inclusion

Our target is to achieve gender balance across our leadership roles by 2030. In 2021 we defined a D&I roadmap identifying actions in five key areas to ensure we achieve this. These areas are: diversity data gathering; improving D&I awareness; developing our D&I brand; measuring and setting KPIs; and alignment to reward and recognition.

We also completed our Global Diversity Representation Survey. Carried out across all regions where data collection was legally allowed, this is an important step in gaining a broad understanding of representation in Croda (see Annual Report page 37). We are now developing specific actions to further understand the data and identify next steps. In 2022 we will define additional metrics focused on wider areas of difference such as ability, ethnicity and sexual orientation. We have continued to build D&I awareness across Croda, including running masterclasses from thought leaders in the field. We established a new global development programme focused on inclusive leadership called Phoenix Rising.

As part of our approach to understanding local inclusion and diversity needs, our regional teams also established new D&I sub-committees to complement our Global D&I Committee. These have been instrumental in advising regional management on a range of topics to help deliver real change in our employee experience.

The Croda D&I brand has been incorporated into a new set of competencies based on our values of Together, Responsible and Innovative, to champion inclusive behaviours. These have been widely shared and included in performance management processes.

Gender balanced Board

as of February 2022



Phoenix Rising taught me that diversity is beyond race, religion, nationality or gender, but about the power of different opinions and perspectives. Leaders who listen to these different perspectives and understand others for who they are will enable a much more inclusive organisation, empowering employees to drive even greater success for our business in the future.

Mulat Hartmann
Regional HR Manager

Improving More Lives



Supporting our local communities

We are committed to supporting and engaging with the communities in which we operate. In 2021, our employees donated 2,750 hours through 1% Club volunteering, 47.2% of this was spent on STEM activities, encouraging the next generation to consider roles in science, engineering, technology and mathematics.

Inspired by the 2021 United Nations Climate Change Conference (COP26), we developed additional materials for Croda ambassadors to share with schools, connecting everyday changes we can make to reduce our carbon footprint with the discussions and negotiations in Glasgow.

In the US, we donated 1,000 solar panels from our offices and laboratories when we relocated to Princeton. We arranged to donate the panels to three non-profit organisations for use in low-income housing and to support the growing of crops.

We aspire to engage and enthuse many more students in STEM subjects in the future, developing partnerships with organisations skilled in connecting with schools in the right way. In the UK, for example, we signed up to Tomorrow's Engineers CODE, organised by not-for-profit Engineering UK. In doing so we have committed towards common goals to support the increase in diversity and number of young people entering engineering careers, and will multiply our impact at schools in socially disadvantaged communities across the UK.

Croda Foundation: from exciting concept to first funded projects

2021 was the inaugural year of Croda Foundation. It passed a series of important early milestones, guided by the newly formed Board of Trustees and Executive Director, with support

from a Croda-led Foundation Co-ordination Committee which ensures engagement with employees and support from senior management. Croda Foundation achieved Charity Status from the Charity Commission for England and Wales in November 2021 (Registered charity #1196455).

First projects

Croda Foundation considers projects for funding through nominations from Croda employees, often supported by Croda resources (technology, ingredients, expertise and employee volunteering). The first round of employee-led nominations opened in August 2021, with the Foundation receiving 37 detailed proposals from across the business. The first projects to be funded were decided by the Board of Trustees in November, with £150,000 committed to the successful projects from core funds.

Charity of the Year launched

Supporting the Purpose in Action Awards (see page 16), the Croda Foundation launched a Charity of the Year programme. Winners of the awards nominated a charitable organisation for a shortlist that was voted on by all Croda employees, with the winning charity receiving a £25,000 donation towards its work.

The winner for 2021, nominated by the UK Life Sciences team, was the British Heart Foundation. A UK-based charity that funds research into heart and circulatory diseases, BHF is using Croda Foundation's Charity of the Year grant to support its Patients First services. This will include increasing the capacity and capabilities of the Heart Helpline, improving an online information hub, and creating engaging activities for peer-to-peer virtual support groups.

“The BHF’s vision is a world free from the fear of heart and circulatory diseases. We fund ground-breaking science to discover cures, lifesaving initiatives and vital support programmes for those living with heart and circulatory diseases. A huge thank you to Croda staff for nominating the BHF! Croda Foundation’s generous donation of £25,000 will make an incredible difference in our Patients First programme – ensuring that we can continue to be there for those affected by heart and circulatory conditions.”

Chloe Embury
Head of New Partnerships,
British Heart Foundation.

Supporting health care delivery in challenging locations

During the early part of the COVID-19 pandemic, we supported local communities with the Acts of Kindness initiative (SR2020 page 27), building on the generosity and will of Croda employees to help and do more.

We wanted to go further in 2021, targeting help in places with the greatest need, which are often not close to our manufacturing sites or offices. Working with Croda Foundation was the ideal way to do this: we provided an additional £2 million grant to the Foundation, separate and in addition to its core annual funding of £1 million, restricted to supporting health care infrastructure in areas of greatest need over 12 months. The Foundation has already identified and engaged with partners in India (British Asian Trust), Uganda (Amref Health Africa) and Brazil (Instituto Amazonas), committing half of this special funding by the start of 2022.

Croda Foundation projects



**America's
Grow-a-Row**

Scott Cardinali from Personal Care, based in Princeton, USA nominated this project, requesting £50,000 to use for seed purchase and coating for AGAR's Fresh Produce Initiative.



**Association of Women
in Agriculture Kenya
(AWAK)**

Nominated by Evonne Malefo in Croda South Africa, this female-led organisation works to empower women towards self-sustaining projects and lift them from poverty. AWAK was granted £30,000 to support their Resilient Recovery project.



Blind SA

Nominated by Quentin Questiaux at Iberchem South Africa, this Economic Empowerment Project aims to benefit unemployed blind and partially sighted people in South Africa. It received a grant of more than £71,000.

Restricted grant recipients



**Amref Health
Africa UK**

Providing infrastructure and training for 15,000 village-based health workers and 500 frontline staff in 20 districts in Uganda, improving the health and wellbeing of around 750,000 people.



British Asian Trust

Supporting vaccination delivery and infrastructure in under-served communities in five states in India, all of which have a high incidence of COVID-19 and low vaccination rates. Including training 22,300 personnel, providing staff for 3,700 vaccination centres and vaccinating up to 50 million people.



Instituto Amazonas

Tackling vaccine hesitancy through education and digital inclusion, supporting 7,400 people in 10 indigenous tribes in the state of Mato Grosso, Brazil.

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.




FAIRWAGE NETWORK

All employees temporary and permanent were paid a living wage at the end of 2021, according to Fair Wage Network criteria.

17%

reduction in process safety incident rates compared to 2020.









WORLD SUSTAINABILITY AWARDS 2021

Awarded Business of the Year at the World Sustainability Awards.

94%

of palm derivative volumes purchased have supply chain transparency achieved to refinery.

Fundamentals

Health, Safety & Wellbeing			
Objectives	Targets	Milestones and metrics	2021 progress
We will protect the health, safety, and wellbeing at work of all of our people and contractors.	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Achieve OSHA Total Recordable Injury Rate of 0.3 by the end of 2024 	<ul style="list-style-type: none"> • OSHA Total Recordable Injury Rate of 0.73* • Human Performance programme developed, to be rolled out in 2022 • Leading with Empathy training for all managers to support improved wellbeing • Mind UK Mental Wellbeing eLearning module for employees, now completed by 1,900+ employees
 SDG 3.4  SDG 8.8			
Process Safety			
We will protect the health and safety of all of our people, contractors and the communities in which we operate.	<ul style="list-style-type: none"> • Zero significant process safety incidents per year • We will continue to investigate and apply learnings from minor incidents and near misses 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 22 (out of 40) PRRs have been peer reviewed • Now report process safety incidents against SASB Process Safety Indicators • Process Safety Total Incident Rate (PSTIR) 0.034 for 2021
 SDG 3.9  SDG 8.8			
Environmental Stewardship			
We will protect the natural environment through the responsible management of our water consumption and waste production.	<ul style="list-style-type: none"> • Reduce our water use impact by 50% from our 2018 baseline 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Avanti, Alabaster, US, received a notice of violation for operating without an appropriate permit for its emissions to air. The site has since resubmitted its application as part of its expansion project and approval is expected in the first half of 2022 • Water Impact methodology refined and trialled with six manufacturing sites • Manufacturing site at Shiga, Japan reduced water withdrawal by 75% following investments to use recycled water • Process waste to landfill reduced by 21.4% from 2018 baseline
 SDG 6.3  SDG 12.5			
Responsible Business			
We will verify and maintain our position as the most sustainable supplier of innovative ingredients within our industry.	<ul style="list-style-type: none"> • Achieve outstanding CSR performance ratings across all themes within the EcoVadis assessment 	<ul style="list-style-type: none"> • Achieve an EcoVadis score of at least 85 by end 2023 	<ul style="list-style-type: none"> • Awarded Business of the Year at the World Sustainability Awards

* Excluding COVID-19 and including acquisition impact

Fair Income



Objectives	Targets	Milestones and metrics	2021 progress
We will contribute to sustainable and inclusive economic growth by ensuring that everyone working at Croda sites receives a fair income.	<ul style="list-style-type: none"> Everyone working at Croda locations, including temporary and permanent employees, and all contractors will receive a living wage that is monitored and reviewed annually 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> All employees, temporary and permanent, were paid a living wage at the end of 2021, according to Fair Wage Network criteria, one year ahead of target

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.	<ul style="list-style-type: none"> Target to be finalised during 2022 	<ul style="list-style-type: none"> 100% of employees will receive a minimum of one week's training per year by the end of 2025 	<ul style="list-style-type: none"> Partnered with Ashridge Hult to launch new Leadership Development Programme Ambitious 2030 target still in development, to be finalised during 2022
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Quality Assurance



We will maximise our resource efficiency and minimise all types of waste energy, water and materials across our operations.	<ul style="list-style-type: none"> Achieve a 99.5% Right First Time (RFT) rate 	<ul style="list-style-type: none"> Achieve a 99.0% RFT rate by the end of 2024 	<ul style="list-style-type: none"> Ended 2021 with a RFT rate of 98.33%, ahead of the run rate required to meet our 2024 milestone Proactive roadmap developed to ensure continued progress to 2030 target
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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.	<ul style="list-style-type: none"> Full life cycle assessments (LCAs) of our top 100 ingredients 	<ul style="list-style-type: none"> Finalise our LCA methodology with external input and verification by the end of 2021 Complete 40 LCAs by the end of 2024 	<ul style="list-style-type: none"> LCA methodology finalised, compliant with ISO 14040, supported and verified by Ricardo First full LCA completed for Coltide Radiance
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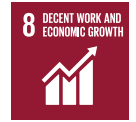
Sustainable Sourcing and Supplier Partnerships



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.	<ul style="list-style-type: none"> Ensure all key suppliers are responding to EcoVadis and engaging with us to improve practices 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Suppliers representing 65% of our spend have been evaluated using EcoVadis 85% of our palm derivative purchases in 2021 were RSPO-certified >94% of purchased volumes in 2020 were mapped back to either refineries, mills or plantations, working with Action for Sustainable Derivatives (ASD) We joined Together for Sustainability to collaborate on mutual supply chain transparency and to help develop industry-wide standards for data sharing
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Health, Safety & Wellbeing

SDG Targets:
3.4, 3.9 and 8.8



We were disappointed to recognise that, in common with reports from other companies, our measure of personal injuries for employees and contractors under Croda direct supervision, the OSHA total recordable injury rate or TRIR, rose during 2021 to 0.73. This excluded the effect of a small number of work-related COVID-19 cases and includes acquisition impact. Other companies consulted agree that they have observed a similar pattern, ascribing this to the indirect effects of the continuing pandemic.

Personal injury rates for newly acquired sites are on average higher than those at more established Croda sites. As they integrate systems, undergo training and recruit specialist advisors, these acquisitions are already reducing the number of injuries.

The pandemic continued to present challenges, including requirements for home working, absence due to non-work-related infection, and self-isolation. Despite this, our sites have continued to focus on safe operation and making improvements.

Evolving behavioural safety: Human Performance programme

We have deployed various approaches for behavioural safety improvement for many years. These were standardised in 2015 into a Group-wide Behavioural Safety Observation programme, implemented across all manufacturing sites. To work towards our ambitious low personal injury rate target for

Wellbeing continued to be a focus in 2021 during the pandemic, with many employees working from home.

2020, in 2021 we continued evolving our approach with a new Human Performance programme, designed by a specialist in Group SHE. This redirects focus from purely frontline operational staff towards all levels in the organisation, and aims to maximise learning opportunities whenever our people interact. Founded on a unique set of principles, the programme creates opportunities for meaningful conversations about how work is carried out, the real risks people face, and to empower all employees to get involved and provide solutions. Each trial site is applying the new principles to activities, including individual safety conversations, group meetings and incident investigations. Delivery of the full programme will start early in 2022 at six sites prior to adoption across all manufacturing sites.

SHE leadership for acquisitions

In 2021 we extensively revised and updated our training in SHE leadership for new acquisitions and provided this to site management teams at Avanti, Iberchem, Parfex and Alban Muller. Five modules were delivered across Asia, Europe and the Americas, covering topics such as management systems and safety

culture maturity, and specifics including management of change, risk assessment and incident investigation.

Wellbeing

Wellbeing continued to be a focus in 2021 during the pandemic, with many employees working from home. We expanded provision of our Employee Assistance Programmes to provide counselling support and introduced other mental health tools, such as the Shiny Mind app in the UK. Many sites ran wellbeing events including social activities, yoga classes, exercise challenges and leisure classes, such as painting.

We recognise that employee wellbeing is closely associated with how people are managed and so ran webinars for our managers in 2021 on Leading with Empathy. We also increased the number of communications shared with employees through podcasts and webinars, as well as online and printed newsletters.

Pleasingly, these actions have resulted in an improvement in employee satisfaction related to wellbeing questions, through an increase in the percentage of positive responses.

Improving process safety and reducing air emissions at Atlas Point

The ECO operations team at Atlas Point, USA, has worked diligently to improve process safety and reduce air emissions in 2021. Following the higher-than-expected

emissions during commissioning in 2020, modifications were made allowing the plant to restart in March 2021. Working with local regulators, all hazardous emission sources have been eliminated. This involved evaluating all 190 pressure relief valve installations to ensure they exceeded the required standards and upgrading emergency response equipment.

Another significant milestone was completion of the plant's first annual maintenance

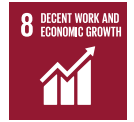
shutdown to inspect equipment and overhaul machinery, with no major issues found and a problem-free restart. A new system for operator training and competency assessment has also been implemented during 2021, this is now being emulated across several other sites in the Group as best practice.

Improvements to process and personal safety performance has enabled the site to achieve its target of zero recordable injuries in 2021.



Process Safety

SDG Targets:
3.9 and 8.8



Sustainability Accounting Standards Board (SASB) process safety incident rate

Strong process safety management helps to reduce downtime, mitigate costs and regulatory risk, and maximise productivity. By contrast, a process safety incident (PSI) can lead to operational disruption, facility damage, reputational harm, and increased regulatory compliance and remediation costs. In line with investor and other stakeholder needs, we have devised a system for data collection and reporting in line with the criteria of the SASB.

Due to the small number of events taking place, these metrics are not appropriate to use in improvement processes; we will continue using our various internal measures to monitor and prioritise improvements, with internal leading and

lagging indicators of process safety performance at all relevant manufacturing sites. We will also publish a new suite of internal guidance documents created by Group SHE specialists in consultation with process safety specialists at manufacturing sites and with input from external risk management consultants.

In January, our manufacturing site at Gouda, the Netherlands, had a fire in an oil-water separation pit, which also damaged a raw material storage tank. We are pleased to report that there were no injuries or environmental harm, with all materials contained on site. Since the incident, the site has introduced a number of improvements to address the findings from our internal investigation.

In 2021, using our internal measure of performance:

17%

reduction in PSI rates compared to 2020, the majority being activation of protective systems to ensure plants remained within safe operating limits

25%

reduction in loss of containment events, none of which were significant releases

Environmental Stewardship

SDG Targets:
6.3, 6.4 and 12.5



Water use impact

Water is a vital resource, and one to be conserved, yet it is also required at almost every stage of a product's life cycle. We are committed to pioneering corporate water stewardship practices and have taken important steps to reduce the water footprint within our direct operations.

By the end of 2021, our total water withdrawal had reduced 10.6% since 2018, whilst production volumes increased by 5.8%. Most notably, our manufacturing site at Shiga in Japan reduced water withdrawal by 75% in 2021 following investments in closed loop cooling towers that use recycled water.

In line with our 2030 target to halve our water use impact from a 2018 baseline, we are currently finalising the development of a methodology that goes beyond the volumetric reduction of water use and enables us to quantify the local environmental impact associated with our water management practices. Our methodology accounts for volumetric consumption, local water stress at source, water displacement effects and the quality of discharged water.

Water stewardship

857,149m³

of water saved by our manufacturing site at Shiga, Japan

Developed as a questionnaire based on extensive environmental indicators (for example, physical, biological, chemical) and a weighted scoring system, our water use impact metric generates a single impact score for each manufacturing site. This score reflects the current environmental burden of water use and helps to define a realistic water reduction roadmap. We also used the WRI Water Risk Aqueduct tool and Ecolab Smart Water Navigator to identify the most substantive water-related risks within our direct operations. We plan to roll out our water impact methodology to sites using a risk based approach in 2022.

Process waste to landfill

In 2021 we reduced our process waste sent to landfill by 21.4% from our 2018 baseline, which is good progress as we work towards zero process waste to landfill from our operations by the end of 2024. Of our 19 principal manufacturing sites, only eight sent waste to landfill during 2018 (baseline year).

Waste management

Iberchem, our global fragrance and flavours business based in Spain, has championed waste management best practices through robust policies and employee education programmes. In recognition of its achievements, the company received a Zero Waste Certification from AENOR, the Spanish organisation responsible for the development and distribution of technical standards. Iberchem attained the certification by diverting more than 97% of its waste from landfills and incinerators to recycling and recovery facilities (7% above certification requirements). The evaluation covered 19 categories of waste, including paper, plastic, water and electronics. This represents a significant step in transitioning away from a linear model towards a circular economy.

Our Avanti, Alabaster site in the USA was given a notice of violation by the Alabama Department of Environmental Management (ADEM) for operating without an appropriate permit for its emissions to air. The site has since resubmitted its application as part of its expansion project and is working with the regulator to gain approval, which is expected in the first half of 2022.

Responsible Business



Responsible business

Since 2012 we have used the EcoVadis sustainability rating framework as a measure of our performance and a tool for continual improvement to maintain our position as a sustainability leader. The methodology is evidence based and covers assessment against environment, labour and human rights, ethics, and sustainable procurement.

We received a platinum award at our most recent assessment in 2020, placing us in the top 1% of more than 75,000 companies assessed globally.

During 2021 we engaged with stakeholders within the EcoVadis organisation to better understand our score and share ideas around potential methodology improvements.

In early 2022 we will submit our most up-to-date assessment and will also progress our engagement with the methodology team at EcoVadis, supporting further developments that will help drive continual improvement in sustainability practices for the benefit of all respondents to EcoVadis.





In October we were delighted that our sustainability leadership was recognised as we won Business of the Year at the World Sustainability Awards.

World Sustainability Awards is a global platform celebrating excellence in corporate and social sustainability. Organised by Sustainability Leaders, 73 companies were shortlisted across the 12 awards categories. The judges commended not only our ambitious Commitment to 2030, but also our achievements against our 2015-2020 sustainability targets, demonstrating that Croda are leading the way in reducing corporate CO₂ emissions and improving human rights. They remarked that our achievements are testament to how fully we have embedded environmental, social and corporate governance into our business model, also commenting that few organisations have embraced the full definition of sustainability as comprehensively as Croda, with our holistic approach to sustainability an example for others to follow.

Increasing visibility of non-financial data

In 2021, we implemented SpheraCloud, cloud-based sustainability reporting software that has been rolled out to our global locations and other functional stakeholders for reporting of quarterly non-financial data. As well as automating data analysis and streamlining quarterly reporting, real value is generated by this software in the increased visibility of non-financial data across our business. Site, regional and sector leadership teams can view dashboards showing non-financial performance, trends and progress against our 2030 targets. This is helping inform decision making and elevating the profile of non-financial data, which is critically important to successfully deliver our sustainability strategy.

EcoVadis

Platinum

award received in 2020

Global leader

top 1%

of more than 75,000 companies assessed globally

Fair Income

Living wage

We continue to pursue our global living wage target, one of our sustainability KPIs linked to the UN Sustainable Development Goals (SDGs). In 2020 we forged a partnership with the Fair Wage Network (FWN) to establish living wage levels across the world using an independent and economically rigorous methodology. Throughout 2021, we compared our global wage levels to living wage comparators provided by the FWN and made all necessary adjustments to ensure all our employees are now paid a living wage as a minimum.

As far back as 2018 we gained accreditation in the UK as a Living Wage Employer from the Living Wage Foundation. In 2022 we will continue to ensure all UK employees and regular contractors are paid at, or above, the rates advised.

Our focus now is ensuring living wage levels are reviewed annually and necessary adjustments to wages are made to continue paying a living wage to all our employees. We are also beginning to progress towards our Commitment to pay a living wage to all regularly employed contractors globally by the end of 2024.



SDG Target: 8.5



FAIRWAGE NETWORK



Knowledge Management

SDG Target:
4.3



Our 2025 target is to ensure all employees have a minimum of one week of training each year. This can be on the job, classroom-based in person or virtually, self-study, an online programme, professional training or taking part in mentoring or coaching.

To support this ambition, and in response to the COVID-19 pandemic, we continued to support a significant number of online training programmes available to employees, with more than 2,000 courses available on our learning management system, MyCroda. These courses, many of which are available in multiple languages, cover topics including personal development, computer skills and leadership. We moved much of our classroom training to a virtual setting in conjunction with our internal learning and development teams and with external partners, such as Ashridge Hult (leadership development programme).

We continued to support a significant number of online training programmes available to employees, with more than 2,000 courses available on our learning management system, MyCroda.

Customer insights

Recognising that the needs and expectations of our customers are evolving, in 2021 we established a Customer Insights Centre of Excellence to uncover opportunities to improve customer experience and enhance the value we add. This work is a “voice of the customer” research programme, consisting of three key feedback mechanisms: an online customer survey (qualitative and quantitative); customer interviews; and focus groups. The insights gained give a deeper understanding of our customers and how we can support their goals, as well as position Croda effectively for future success.

Sustainability is core to the insights approach, alongside other key metrics such as product quality, innovation, customer service and collaboration. As a result of the work completed in the first year we have gained intelligence that will inform more targeted and relevant interactions with customers on sustainability across regions and sectors.



Quality Assurance

SDG Targets:
12.2 and 12.5



Maximising right first time, minimising waste

Minimising energy and material investment in our products means maximising right first-time rates in production. If a product requires additional processing, this increases CO₂ emissions. Where a batch is defective, that could mean tripling emissions based on producing the defective batch, recovery of that batch and manufacturing a replacement batch. This is an important perspective on preventing waste in product manufacture.

Previously, the focus on not-right first time incidents was purely on failures to meet the end specification. By now capturing and studying the underlying quality “near misses” and process deviations we halved the number of failures in three years. We are very pleased with the progress made in 2021, ending the year ahead of target and, to take this further in a proactive manner, we have taken a suite of quality tools and techniques and created a roadmap to help

manufacturing sites achieve our strategic goals. At many sites this means having only one or two deviations in production each year. With multiple manufacturing sites, all with their own unique features, the roadmap will allow each to select the right approach for their situation and maximise progress. The toolkit is being rolled out to all manufacturing sites in 2022, and the roadmap will ensure we make successful progress towards our 2030 target of 99.5% right first time.

Quality GMP Certificates

We have contributed to the success of EFfCI and EXCiPACT GMP Certification Schemes for cosmetic ingredients and pharmaceutical excipients for 10 years. These certificates provide independent and reliable confirmation that the operations at our manufacturing sites conform to Good Manufacturing Practice (GMP) standards. Our sites hold 15 EFfCI GMP certificates and eight EXCiPACT certificates.

Many Croda customers demand physical audits of suppliers to ensure products are manufactured to a suitable standard of GMP, especially in pharmaceutical industries. Increasingly, the cosmetic sector is following this lead. We have opted to make these GMP certificates and audit reports available to customers to help with these auditing requirements.

Prior to the pandemic there was a reasonable uptake of this offer, but many customers still insisted on sending their own auditors to our sites. With travel restricted during the pandemic and the number of visitors to sites reduced, many customers changed their position and now accept our GMP certificates instead of sending auditors. This travel saving has contributed to an overall reduction in emissions while maintaining a high standard of audit.

Product Stewardship

SDG Targets:
3.9, 12.2 and 14.1



Our 2030 target to complete life cycle assessments (LCAs) for our top 100 ingredients is driven by our commitment to understand the impact of our products beyond factory gates and take a proactive role in the transition to a circular economy.

We are collaborating with LCA experts Ricardo to develop a bespoke cradle-to-grave LCA tool that follows ISO 14040 requirements and can be consistently applied to products across our business sectors. This tool examines raw materials, energy, transport, emissions and waste associated with core upstream procurement activities, manufacturing processes and downstream product use and disposal. It subsequently reports on product specific environmental indicators including global warming potential, ecotoxicity, land use, eutrophication and resource depletion. At product level, LCA outcomes will be used to understand the environmental burden of key stages, materials and processes, and so identify the hotspots in the life cycle of a product while also demonstrating the benefit of including Croda products in a customer formulation. At the corporate level, the results will inform

business decisions and prioritisation of sustainability actions, and add value to our commercial dialogue, creating opportunities for future collaboration and alignment with our stakeholders.

By the end of 2021 we had completed our first pilot LCA (see case study) using our new tool and methodology. In 2022 we will complete a further six full LCAs deploying central resources, with a view to training others throughout Croda in 2023 to use the tool. The results will then be owned across our business sectors, who will drive improvements, innovation and customer collaboration using the results of the LCAs. This will put Croda in a strong position to accelerate progress and remain on track to complete our LCA target by 2030.

LCAs and greater understanding of the environmental impacts of our product portfolio can also help us to anticipate and stay ahead of regulatory changes. Globally, registration schemes such as EU REACH are becoming more prevalent, having an impact on how we plan, launch and roll out products. Registration is

fast becoming the price of entry for ingredients, creating increased demands.

Global Product Safety Team

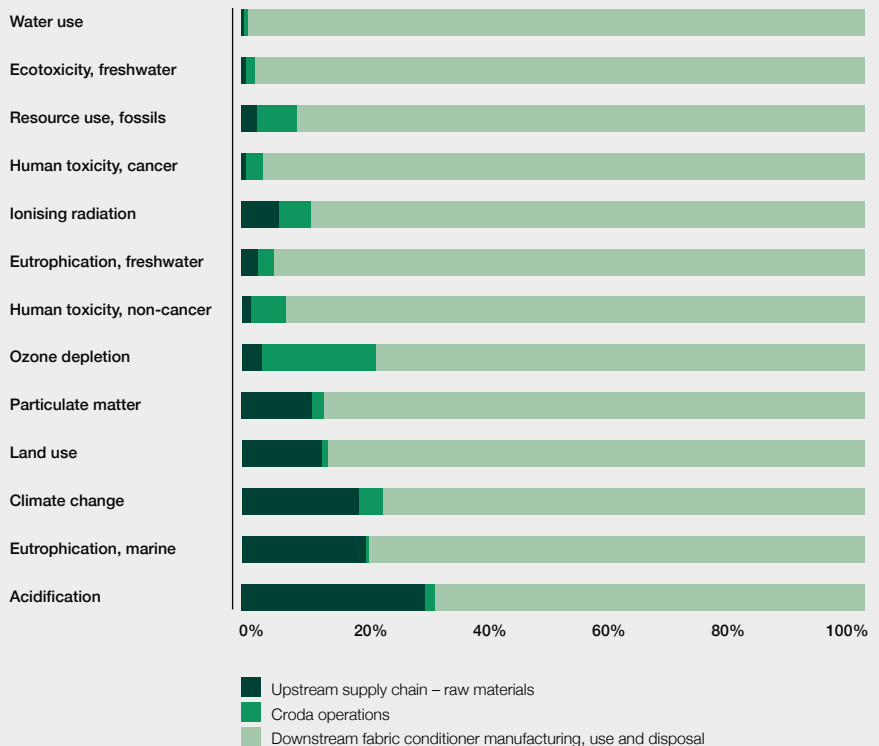
Our recently formed Global Product Safety Team ensures safety and sustainability considerations are built into a product through the innovation phases. Building on regional product safety expertise developed over many years, this new global function focuses on areas such as study design for existing testing requirements, while taking longer-term views such as next generation risk assessments. Our extensive regulatory expertise enables us to react to changing regulatory demands to meet our customers' expectations. The regulatory landscape is complex, with a total of 112 countries globally with cosmetic legislation, of which 48 countries have both chemical and cosmetic legislation, 52 countries have cosmetic legislation only and 12 countries have cosmetic legislation and draft chemical legislation. We work with external partners and customers to grow and develop our knowledge, to provide expert product support, and prepare for upcoming legislation such as the EU Green Deal.

Coltide Radiance – sustainability in use

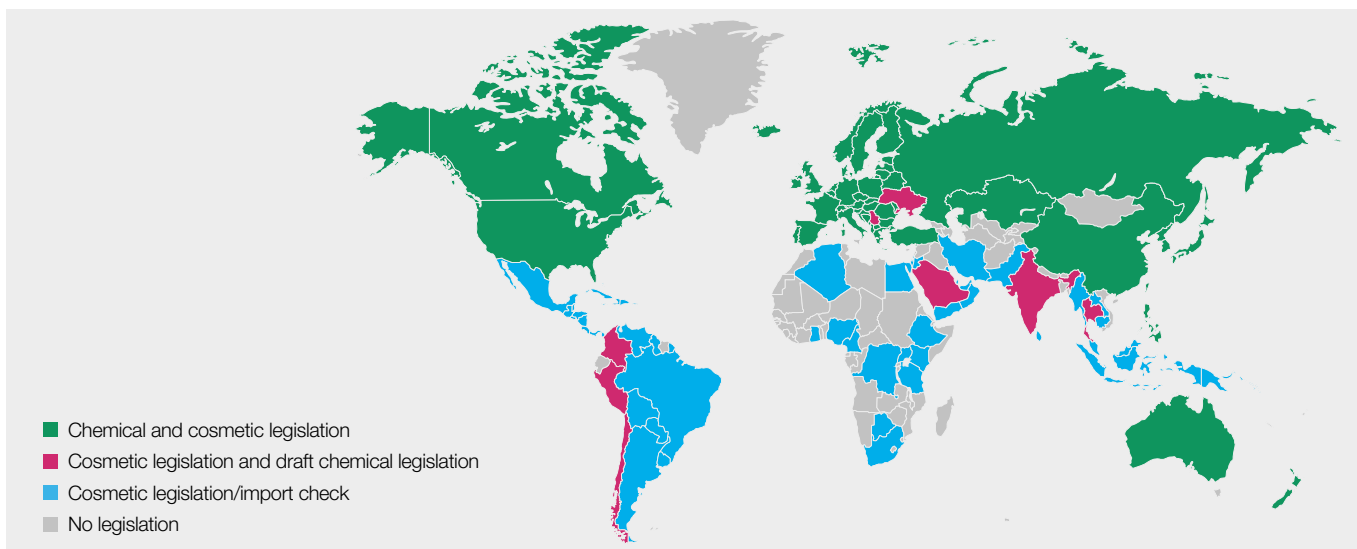
Given the verified downstream benefits of Coltide Radiance – prolonging the lifetime of garments and reducing clothes waste by 10%, 58.8 million m³ water savings and 243,400 tonnes of CO₂ emissions avoided in 2021 – we wanted to understand the net environmental footprint of this biopolymer and get a better appreciation of its entire sustainability credentials. The LCA revealed a very low environmental burden associated with the manufacturing stage of Coltide Radiance, the biggest impacts being concentrated around the product in use stage (laundry washing).

The climate change and water use impacts for each 1kg of clothes washed are proved to be lower when using fabric conditioners containing Coltide Radiance than those without. This study highlighted an opportunity to collaborate with customers on pursuing environmental savings in the product in use stage, as this action, even if at the expense of higher manufacturing burdens, will yield a more sustainable result overall.

Coltide Radiance – environmental impact categories by life cycle stage



Global reach and regulatory expertise



Sustainable Sourcing and Supplier Partnerships

SDG Targets: 12.6 and 12.7

Supplier engagement

Confirming environmental integrity and social accountability is an increasing prerequisite in our upstream supply chains. During 2021 we arranged sustainability training for all procurement individuals and engaged in discussions with suppliers. The current and future selection of global suppliers is based on collaboration and on aligning our goals, for example, SBTs, new sustainable innovations, public commitments for carbon reduction, and supplier understanding of their overall impacts on nature and the environment.

Palm derivatives



Our use of palm-derived raw materials is strongly supported by RSPO supply chain certification, supply chain mapping and transparency.

In 2021 85% of our global palm derivatives consumption was RSPO physically certified by Mass Balance. In Europe and the Americas we achieved 99% transformation to RSPO, whereas in Asia we continue to face challenges completing the conversion.

Working with Action for Sustainable Derivatives,* our 2020 supply chain mapping covered 96.8% of our total volumes of palm-based raw materials and suppliers responded to the upstream transparency investigations representing 99.31% of the palm feedstock volume equivalent.

Supply chain transparency was achieved for:

- 94% of volume to refineries
- 90% of volume to mills
- 27% of volume to plantations

Greater than 98% of traceable volumes originate from Indonesia (46%), Malaysia (51%) and

Thailand (1.2%), with 1,025 mills representing 90% of traceable volumes.

Our policy has been to preferentially source from suppliers with NDPE (no Deforestation, no Peat, no Exploitation) commitments and, in 2021, 81% of our volume was from suppliers with NDPE commitments and 74% of our volume is from suppliers with established grievance procedures. However, from 2022 we shall require that all suppliers comply with NDPE, ensuring elimination of links to deforestation.

With RSPO transformation of our consumer product supply chains 99% complete, we focused particular attention on our Performance Technologies palm derivative supply chains. In 2021 our palm derivative volume consumption

increased in absolute terms by 13% over 2020 and, despite unprecedented challenges with global restrictions in supply of RSPO-certified raw materials, we achieved a further 10% conversion over 2020 with 85% of our global volumes physically certified.

Sustainable Palm Index

The Sustainable Palm Index (SPI), originally created in 2016 by L'Oréal, and later deployed within the ASD initiative, is a comprehensive evaluation scorecard for direct suppliers of palm oil (PO) and palm kernel oil (PKO) derivatives. Assessing commitments, efforts and practices towards responsible PO and PKO derivatives supply chains.

Our SPI score is 85/100 against the average scores of 56 and 72 in surfactants and oleochemicals respectively.



Croda has been an invaluable founding member of Action for Sustainable Derivatives, actively supporting, engaging and promoting the initiative within the derivatives sector with upstream and downstream supply chain players, and more broadly in sustainable palm forums. Croda brings a wealth of experience and a voice of constructive input to help shape and deliver ASDs strategy to progress NDPE compliance and responsible palm derivatives sourcing through a collaborative, industry-wide and impact oriented approach.

Edwina McKechnie
Associate Director BSR

* Action for Sustainable Derivatives (ASD) is a collaborative initiative driven by derivatives users to transform their supply chains by increasing transparency, monitoring risks, engaging the sector, and generating on-the-ground impacts.



Michelle Fargen
Global Head of Procurement and Sustainable Sourcing

Michelle Fargen on supply chain partnerships

MF To maximise the value gained from our sustainable supply chains, Croda has fully aligned with SDG17, Partnerships for the Goals, to increase our levels of transparency across all suppliers and supplier partnerships. This is important for the chemicals industry, and it is especially important to Croda given our high focus and use of bio-based raw materials which may have material environmental and socioeconomic impacts. To expedite the capture of this transparency information, Croda is working with suppliers, customers and industry groups to develop industry-wide standards for data sharing through our partnerships with Together for Sustainability and EcoVadis Supply Chain. Working together we can transition the provision of this information from our suppliers from its current complexity to business as usual.

In my newly created role as Global Head of Sustainable Sourcing, I have connected with 100+ procurement and supply chain professionals across Croda to increase their awareness regarding sustainability topics and how we can engage with suppliers to help meet our joint sustainability goals. I plan to continue this work in 2022 by further engaging with our key suppliers to discuss the importance of sustainability, transparency and collaboration – with a goal to reward suppliers who are aligned with Croda.

Advocacy in supporting sustainable palm

Throughout 2021 we engaged in many forums and industry meetings, including:

- Active participation in the UK Sustainable Palm Oil Initiative (SPOI), including the industry-led UK Roundtable on Sourcing Sustainable Palm Oil, under the Partnerships for Forests programme
- Statement of support from businesses for an effective EU law to halt the trade in commodities and products linked to deforestation and conversion
- Participation in industry discussions in establishing due diligence legislation for deforestation-free supply chains
- Strong support and advocacy for ASD membership via global webinars

At the RSPO's 18th General Assembly held in December, a Resolution was proposed by WWF, the Zoological Society of London and individual member companies within Action for Sustainable Derivatives to enhance the robustness of the RSPO Mass Balance model to accelerate uptake of certified sustainable palm oil. Support for the resolution was delivered by Chris Sayner, Croda Vice President – Customer Alliances, at the General Assembly and was carried with 83.13% votes in favour.

Ingredient integrity

>70

ingredients will be ISCC certified in 2022

International Sustainability and Carbon Certification (ISCC)



ISCC is a globally applicable certification that promotes the reduction of greenhouse gas emissions, sustainable

land use, protection of the natural biosphere, and social sustainability for agricultural, forestry and other raw materials. Along with RSPO, it is one of the main international vegetable oil certifications for chain of custody.

Following a successful audit and certification of our Gouda site, and support from rapeseed raw material suppliers, more than 70 ingredients will be ISCC certified in 2022, confirming bio-based renewable carbon content originating from sustainable ISCC certified sources (mass balance), supporting the sourcing of sustainable vegetable oil.

With ISCC we are committed to supporting the shift towards the circular economy and bioeconomy. ISCC certification is a way to provide traceability and transparency throughout our vegetable oil supply chain and show customers that good agricultural practices are being used, human rights are respected and that our raw materials are not contributing to deforestation or harming biodiversity.

Union for Ethical Biobased Trade (UEBT)



As a member of UEBT, Sederma together with Crodarom and Alban Muller have six ingredients verified according to UEBT responsible sourcing criteria. This verification focuses on important requirements from the UEBT standard, including

requirements on human rights, critical social and environmental considerations to meet company due diligence, and to ensure no negative practices.

Sustainable Castor Association



We joined the Sustainable Castor Association in June 2021. This unites stakeholders from the various sectors of the industry – farmers, oil mills and refineries, derivatives processors and other organisations with a direct or indirect involvement in the castor oil supply chain – to develop and implement standards for sustainable castor. We will promote adherence to the SuCCESS (Sustainable Castor Caring for Environmental and Social Standards) code throughout our castor supply chains, in a similar approach to our successful work with RSPO and palm.



In 2021 we joined Together for Sustainability (TfS), an organisation that, in partnership with 33 major chemical companies, focuses on sustainable procurement activities. Members work together to align supplier assessments and audits, share supplier results, and influence suppliers to improve performance in key areas of sustainability: environment, labour and human rights, ethics, and sustainable procurement. TfS is working to create a uniform framework for capturing scope 3 emissions associated with the products purchased by its membership. As a result, we will have measurable results to support supplier collaboration discussions and to make purchasing decisions in support of the most sustainable supply chain partners.

Report abbreviations

£m	Million pounds sterling
®	Registered trademark
°C	Degree Celsius
AGAR	America's Grow-a-Row
AMREF	African Medical and Research Foundation
ASD	Action for Sustainable Derivatives
AWAK	Association of Women in Kenya
BEIS	Department for Business, Energy and Industrial Strategy
BHF	British Heart Foundation
BSR	Business for Social Responsibility
Bio-based organic	Carbon-containing, from renewable, non-fossil sources
c.	circa
CEO	Chief Executive Officer
CIO	Chief Information Officer
CISL	Cambridge Institute for Sustainability Leadership
CO₂	Carbon dioxide
CO₂e	Carbon dioxide equivalent
COP26	26 th United Nations Climate Change Conference
Defra	Department for Environment, Food and Rural Affairs
D&I	Diversity and Inclusion
ECO	Environmentally Conscious Option range of bio-based products
EEMEA	Eastern Europe, Middle East and Africa
EFrCI	European Federation for Cosmetic Ingredients
ESG	Environmental, Social, and Governance
EXCiPACT	Certification scheme for pharmaceutical excipients
FWN	Fair Wage Network
GHG	Greenhouse gas
GMP	Good Manufacturing Practice
GRI	Global Reporting Initiative
HDI	Human Development Index
IFP	Industry of Future Programme
IPCC	Intergovernmental Panel on Climate Change
ISCC	International Sustainability and Carbon Certification
ISO	International Organization for Standardization
kg	Kilogram
KPI	Key Performance Indicator
LCA	Life Cycle Assessment
m³	Cubic meters
mRNA	Messenger ribonucleic acid
MW	Megawatt
NDPE	No Deforestation, no Peat, no Exploitation principles
Net zero	Eliminating almost all scope 1 and 2 emissions and significantly reducing our scope 3 emissions, with any residual supply chain emissions permanently offset through fully validated and approved schemes.
NPD	New Product Development
NGO	Non-Governmental Organisation
NPP	New and Protected Products
Organic	Carbon-containing, from renewable and/or fossil sources
OSHA	Occupational Safety and Health Administration

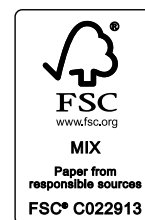
PBT	Profit before tax
Plc	Public limited company
Ppt	Percentage point
PRR	Process Risk Review
PSI	Process Safety Incident
R&D	Research and Development
RFT	Right First Time
RSPO	Roundtable on Sustainable Palm Oil
SASB	Sustainability Accounting Standards Board
SBT	Science-Based Target
SBTi	Science Based Targets initiative
SBTN	Science Based Targets Network
Scope 1	Direct emissions from our own, or controlled sources
Scope 2	Indirect emissions from the generation of purchased electricity, steam, heating and cooling
Scope 3	All other indirect emissions that occur in our value chain
SDG	Sustainable Development Goal
SHE	Safety, Health and Environment
SIA	Sustainability Impact Assessment
SPI	Sustainable Palm Index
SPOI	Sustainable Palm Oil Initiative
SR	Sustainability Report
SSI	Statens Serum Institute
STEM	Science, Technology, Engineering and Mathematics
SuCCCESS	Sustainable Castor Caring for Environmental Standards
TCFD	Task Force on Climate-related Financial Disclosures
Te	Tonne
TeCO₂e	Tonnes carbon dioxide equivalent
TM	Trademark
TfS	Together for Sustainability
TRIR	Total Recordable Injury Rate
UK	United Kingdom
UEBT	Union for Ethical BioTrade
UN	United Nations
UNGC	United Nations Global Compact
USA	United States of America
UV	Ultraviolet
VOC	Volatile organic compound
WHO	World Health Organization

Cautionary Statement

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Designed and produced by Black Sun Plc (London) www.blacksunplc.com

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Registered office

Croda International Plc
Cowick Hall
Snaith
Goole
East Yorkshire
DN14 9AA
England
T +44 (0)1405 860551
www.croda.com