Focused on delivery

Croda is a company built on strong fundamentals including a clear Purpose, a unique culture and a successful business model.

With a portfolio aligned to long-term technology trends, our strategy is well established and is supported by ongoing investment.

We are focused on delivery, including driving operational improvements, to continue our long record of strong performance and progressive shareholder returns.

Reasons to invest in Croda

Strong fundamentals

Find out more on pages 6-17

A proven strategic direction

Find out more on pages 18-27

Focused on operational delivery

Find out more on pages 28-31

Delivering long-term performance

Find out more on pages 32-50

Sustainability is embedded into how we operate as a company and sustainability-related content is included throughout this report. This report forms part of a wider reporting suite and the table below details where to find certain disclosures within this suite.

	Annual Report	Sustainability Impact Report	Data pack	www.croda.com
Sustainability Commitment progress	✓	✓	✓	✓
Non-financial and sustainability information statement	✓			
TCFD	✓			
GRI			✓	
SASB/ISSB review			✓	
Principal Adverse Impact Statement			✓	
Limited Assurance Opinion and Reporting Criteria △				✓

Note: We use a number of Alternative Performance Measures (APMs) to assist in presenting information in this report in an easily analysable and comparable form. APMs are defined in the Finance review on page 50.

Limited assurance of select non-financial metrics

△ indicates where metrics have been assured (limited assurance) under ISAE (UK) 3000 and ISAE 3410 by KPMG, our independent assurance provider, and reflects the position for the year ending 31 December 2023. See www.croda.com/sustainability for details.

At a glance

A specialty chemicals company…

Who we are and why we exist

As the name behind some of the world's most successful brands, we combine our knowledge, passion and entrepreneurial spirit to develop and supply innovative ingredients relied on by industries and consumers around the world. Our Purpose, Smart science to improve lives™, underpins our approach and guides what we do.

Our Commitment to Sustainability

We have committed to becoming Climate, Land and People Positive by 2030. Delivering this Commitment will enable us to realise our ambition of being the world's most sustainable supplier of innovative ingredients, while providing solutions to some of the world's biggest challenges, in line with our Purpose.

Our markets

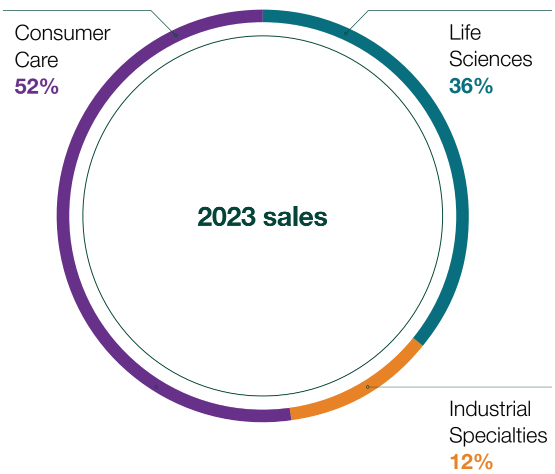
Consumer Care

Positively impacting everyday life
We develop innovative and sustainable ingredients that provide vital functionality to Consumer Care formulations, enabling customers to differentiate their products.

Life Sciences

Pharma – pioneering the future of healthcare
We develop components and systems for the delivery of Active Pharmaceutical Ingredients (APIs), enabling delivery of the next generation of biologic drugs and vaccines.

Agriculture – innovating for global food security
We are an innovation partner to crop science companies, developing delivery systems to meet sustainability challenges and enable next-generation solutions.



Our customers

We typically sell innovative ingredients to product manufacturers in the consumer care, agrochemical and pharmaceutical sectors. Our ingredients provide vital functionality at low inclusion levels, ensuring efficacy or helping to differentiate customers' products, with consumers benefitting through the application of those products.

Customers value the quality of our ingredients, sustainability leadership and the innovation that underpins our products and drives the development of new ingredients. Our direct selling model and collaborative approach to innovation enable us to build strong relationships with customers and our operating footprint supports this.

We operate a balanced footprint with regional manufacturing operations and local warehousing, sales and innovation centres. This balances the need for efficient manufacturing with our desire to be close to customers. We operate 24 principal manufacturing sites with 11 of these being large, multi-sector manufacturing sites. Principal manufacturing sites are complemented by local sites that typically support our Fragrances & Flavours and Seed Enhancement businesses, where local manufacturing supports agility.

…with a global footprint

North America

5
manufacturing sites

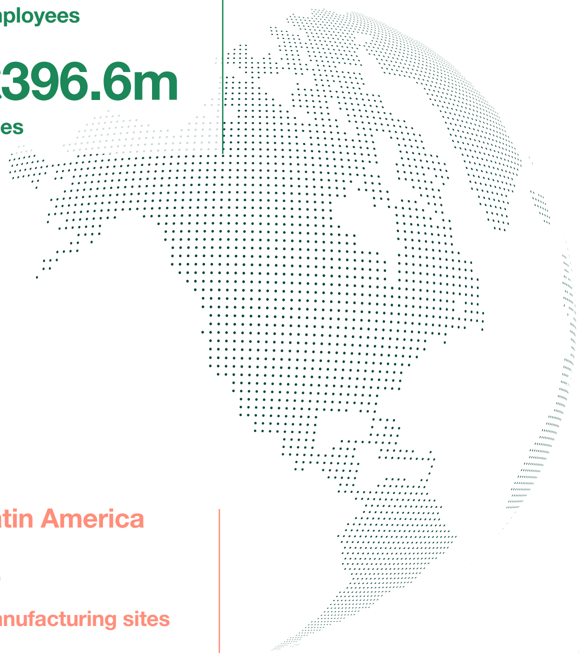
6
innovation sites

6
sales offices

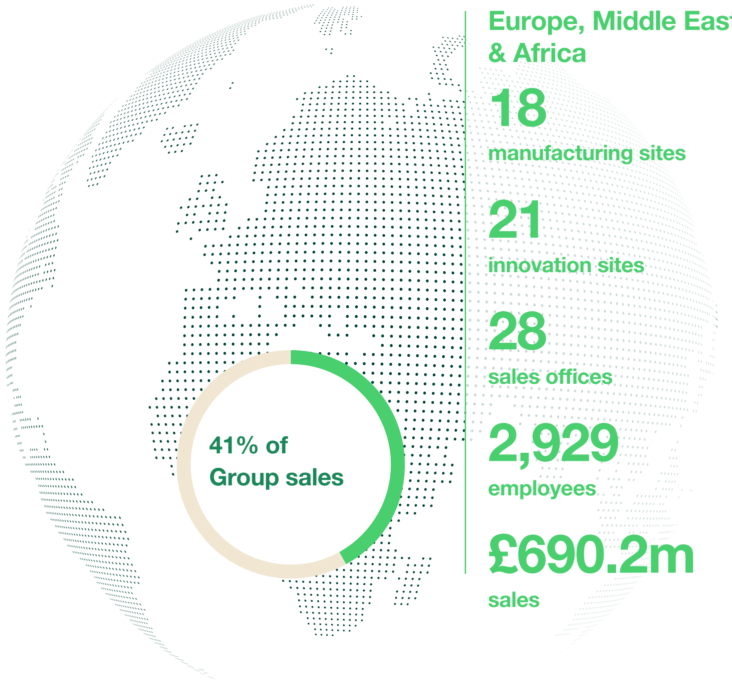
845
employees

£396.6m
sales

23% of Group sales



Europe, Middle East & Africa



18
manufacturing sites

21
innovation sites

28
sales offices

2,929
employees

£690.2m
sales

41% of Group sales

Latin America

6
manufacturing sites

6
innovation sites

11
sales offices

460
employees

£185.4m
sales

11% of Group sales

Asia

13
manufacturing sites

14
innovation sites

26
sales offices

1,618
employees

£422.3m
sales

25% of Group sales

2023 in review

Financial performance impacted by macroeconomic environment

£1,694.5m
Sales (down 11% pro forma)

£320.0m
Adjusted operating profit (down 33% pro forma)

£165.5m
Free cash flow (up 5.1%)

1.3x
Leverage (net debt/EBITDA)

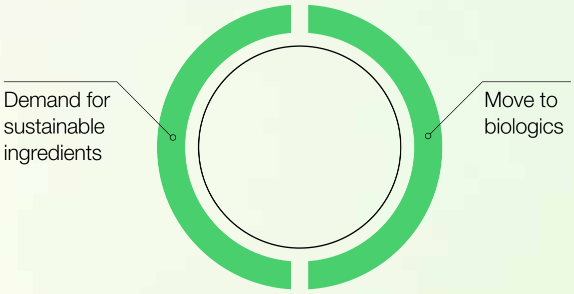
Encouraging progress against our Sustainability Commitment

Our Commitment to being Climate, Land and People Positive by 2030 is demonstrated by the progress we have continued to deliver in non-financial performance:

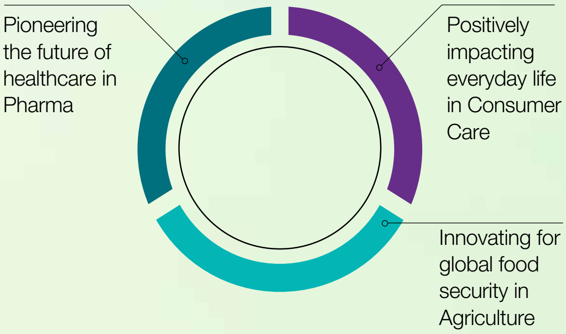
- Scope 1 & 2 emissions down 33% since 2018 (on track against verified SBTs)
- 151,038 hectares of total land area saved
- The Croda Foundation has sustainably improved the lives of more than 22 million people

Megatrends intact

Technology trends shaping our markets



Well positioned to capture market opportunities



Continued strategic investment

Well positioned for recovery

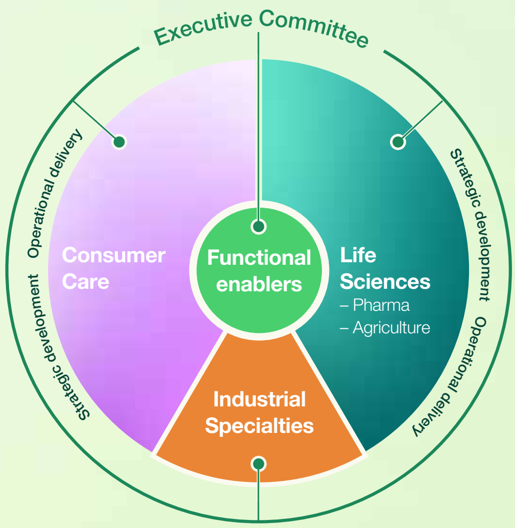
Completed the acquisition of Solus Biotech adding naturally-derived ceramides and phospholipids to the portfolio

Prioritising investment in Consumer Care in Asia, with new R&D labs in Shanghai and a manufacturing site in India to be commissioned in 2025

Scaling up Pharma to support ongoing expansion of customer drug pipelines, with a new R&D lab in India and additional nucleic acid delivery capacity expected on-stream in 2025

Organisational structure

Transitioned to a simpler organisational structure to ensure we deliver more effectively for customers



Investment case

Strong fundamentals

As a purpose-led organisation we collaborate with our customers to create innovative ingredients that deliver meaningful benefits, using Smart science to improve lives™. Our culture, innovation model and customer intimacy are the strong foundations on which our business is built.

To find out more see pages 6-17

A proven strategic direction

Global challenges such as growing populations, climate change and the need to live sustainably are driving long-term structural growth trends in our markets. We are at the forefront of these growth opportunities with a proven strategy that combines sustainability and innovation.

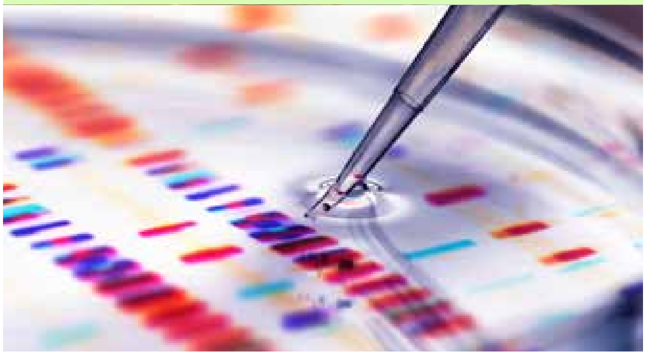
To find out more see pages 18-27

Focused on operational delivery

We are optimising performance in a challenging environment while simplifying our structure, processes and ways of working to support future growth. By continuously improving customer service and efficiency, and focusing on operational delivery, we will leverage the power of our strong foundations.

To find out more see pages 28-31

Delivering long-term performance



Our strong track record of growth over many decades and high cash conversion have enabled us to grow the dividend for more than 30 years. With our growth strategy supported by structural trends and conservative leverage, we are well positioned to deliver continued out-performance.

To find out more see pages 32-50

Reasons to invest in Croda

Built on strong fundamentals

A purpose-led company delivering positive impact

By developing and supplying ingredients that are included at low inclusion levels but are vital to the functionality and claims of our customers' products, we can have an outsized positive impact, applying our Smart science to improve lives™.

To find out more see pages 10-11

We partner and create value across the full development lifecycle

Direct selling supports customer intimacy, with customer insight informing innovation priorities. We partner with customers, academia and SMEs to develop ingredients that address global challenges and build strong relationships in the process.

To find out more see pages 12-15

Our high-performance and innovation-focused culture is unique

As a people-based business, our culture is pivotal to our success and our unique values-based culture transcends our global operations.

To find out more see pages 16-17

Chair’s statement

Focused on delivery

“Our Purpose, Smart science to improve lives™, is the bedrock of our approach and is embedded across our company through our strategy, and our approach to governance, risk and remuneration.”

Dame Anita Frew DBE
Chair

We use a number of Alternative Performance Measures (APMs) to assist in presenting the information in this report. For detail on any APMs used see the Finance review on page 50.

Navigating a challenging market environment

Four years after the outbreak of Covid-19, our markets have continued to see the ripple effects of the pandemic. The chemical industry has experienced a prolonged period of destocking, following on immediately from a period where customers rapidly increased inventory levels to meet surging demand as lockdowns were lifted.

Delivering long-term performance

High inflation, rising interest rates and customer destocking had a significant effect on Croda’s financial performance in 2023 and the Board took the decision to issue two unscheduled trading updates through the year as the trading environment deteriorated. Overall pro forma sales were down 11%, adjusting for the divestment of the majority of the Performance Technologies and Industrial Chemicals businesses on 30 June 2022, and operating profit was down 33%.

Despite this disappointing financial performance, we have seen continued customer demand for Croda’s innovation and ingredients that are differentiated by their sustainability credentials. Both Consumer Care and Life Sciences have more than doubled their annual sales in the period since I became Chair in 2015 through a combination of organic growth and portfolio development, and our customer net promoter score has improved further from +23 in 2022 to +34 in 2023 according to the latest survey.

Most importantly, we have delivered continued progress in a difficult market environment whilst caring for each other right across our company. Despite the challenges we faced in 2023, we maintained our overall employee engagement score at 68%, with 71% of our people saying that they would recommend Croda as a place to work. We are continuing to improve our safety record and made good progress towards achieving our goal of embedding safety as a value, spending over 4,500 hours coaching more than 500 senior leaders globally.

Our commitment to providing regular returns to shareholders is demonstrated by the Board’s decision to increase the 2023 full year dividend, despite lower adjusted earnings. During my tenure as Chair, we have increased the dividend from 69p for full year 2015 to 109p for 2023, a compound annual growth rate of 6% over that eight-year period.

Strong fundamentals

Croda is built on exceptionally strong fundamentals. This includes our Purpose which guides the strategic choices we make, a culture where we put people first and an established business model which enables successful implementation of our strategy.

Our Purpose, Smart science to improve lives™, is the bedrock of our approach and is embedded across our company through our strategy and our approach to governance, risk and remuneration. By achieving our strategy we will deliver growth in our own business while creating positive impacts for the planet and society. Our governance framework covers both financial and non-financial performance, our appetite to risk is higher where that risk is integral to delivering on our Purpose and our Remuneration Policy incorporates sustainability-related targets.

United by our strong sense of Purpose and our values, we work as one team. We also promote a ‘One Croda’ culture through our Remuneration Policy and high levels of employee share ownership.

Croda has a well-established and powerful business model, founded on our own local, science-focused sales force. This direct selling model builds relationships with customers and provides us with insights about their challenges that are key to how we innovate.

Proven strategic direction

Following Croda’s significant strategic transition over recent years, we have a compelling focused portfolio operating in attractive market niches, with long-term technology trends creating valuable growth opportunities.

In the Consumer Care market, sustainability is the biggest single driver over the next decade, accelerating the demand for sustainable ingredients and driving legislation change. The Life Sciences market is being

Chair's statement continued

driven by the rise of biologics, complex molecules that are already transforming medicine and will transform agriculture over the next decade. These long-term growth drivers have remained intact in the challenging environment that we have seen in 2023 and our strategy is to leverage our leadership in innovation and sustainability to capture the opportunities for growth that they are creating.

Despite a tough year, we have continued to invest in R&D and manufacturing capacity. We started construction of three new manufacturing sites in China, India and the USA. We continued to invest in R&D in our fast-growing markets including China, Singapore, and Brazil and we opened up a new technical centre for our Pharma business in Hyderabad, India. We also welcomed Solus Biotech to the Croda family with exciting new growth platforms in ceramides and phospholipids that will contribute to our future growth.

Execution against our sustainability agenda, which is central to our strategy, has continued with the objective of delivering restorative impact throughout our value chain and in wider society. We remain on track to meet our 2030 Science Based Targets for greenhouse gas emissions and the Croda Foundation has sustainably improved the lives of more than 22 million people since the charity was founded in 2021. We also established a Board Sustainability Oversight Committee this year to guide and monitor progress.

Focused on operational improvements

Our focus in 2023 has been on 'controlling what we can control' to protect profitability alongside longer-term improvement programmes to drive efficiency savings by simplifying business processes and ways of working. This focus will ensure Croda is positioned to recover when the macro-environment improves.

A new organisational structure has been effective since the start of 2024 with all regional teams, including sales, R&D, marketing, customer service and manufacturing, reporting into Consumer Care and Life Sciences. This simplifies how we work and will ensure we deliver more quickly and more efficiently for our customers.

Profit-protection measures and changes to our ways of working have created further change and challenges for our employees in addition to tough trading conditions. Throughout 2023, our people have demonstrated their resilience, adaptability and determination and I wanted to take a moment to share my thanks and appreciation with everyone at Croda.

A number of the improvements to business processes have been led by Louisa Burdett, Chief Financial Officer (CFO), who informed us in December that she has accepted a new role as CFO at Spirax-Sarco Plc and so will be leaving Croda in June 2024. We are sorry that Louisa is leaving but she will have our very best wishes when she departs this summer. In the meantime, she is continuing to make a valuable contribution to our future success by establishing a functionally-led finance organisation, leading the upgrade of our systems and driving other important improvements to the way we operate. The search for her successor is well underway and we will make a further announcement in due course.

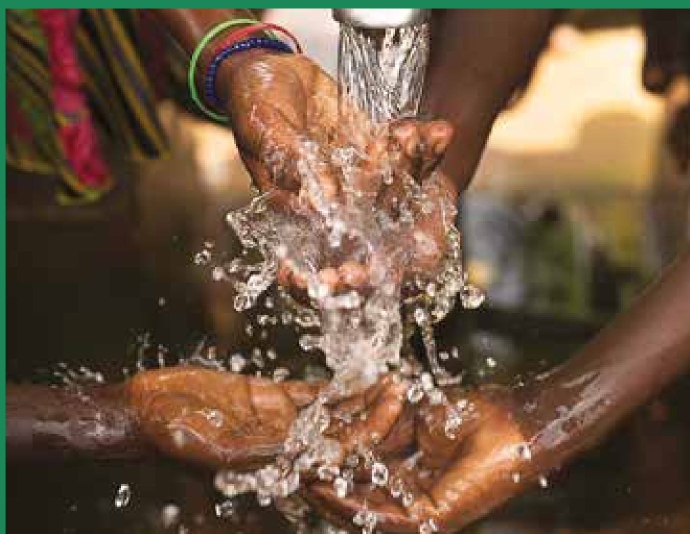
"Execution against our sustainability agenda, which is central to our strategy, has continued with the objective of delivering restorative impact throughout our value chain and in wider society."

Looking back and looking forwards

This will be my last letter to shareholders as I am stepping down as Croda Chair at the conclusion of Croda's AGM on 24 April 2024. The Board has appointed Danuta Gray as my successor, who is currently Chair of Direct Line Insurance Group Plc and a Non-Executive Director at Burberry Group Plc. Danuta has held Board positions across a range of sectors for the past 19 years and has a deep understanding of growing consumer focused and technology-rich businesses in international markets. Danuta has already joined the Board so I have already had the opportunity to start handing over the reins to her.

Croda Foundation 'Neverthirst' project

Improving access to clean water, hygiene and sanitation in rural Uganda



In 2021, we established the Croda Foundation, an independent charitable company funded solely by grants from Croda. The Foundation's priority impact areas include improving access to healthcare, protecting and restoring ecosystems, and reducing hunger and poverty while improving livelihoods. Since 2021, the Foundation has sustainably improved the lives of more than 22 million people, funding 34 projects across 21 countries. One of these projects is improving access to clean water, basic hygiene and sanitation in rural Uganda, upgrading infrastructure, and training 250 people on improving sanitation through building their own household latrine.

Chris Good also joined the Board in April 2023 having spent his career in the consumer care industry, most recently at Estée Lauder as a member of the Executive Committee. Chris' insights into beauty care markets and consumers will be of great value to Croda and the Board.

In my first letter to shareholders as your Chair in 2016, I emphasised the Board's commitment to high standards of corporate governance and to instilling the right culture, behaviours and approach to how we do business. We have never wavered from that commitment and I am pleased that the high standards of corporate governance at Croda were recognised in the recent independent Board review. Our achievements as a Board and as a company have benefitted from the contribution of all Board Directors past and present to whom I offer my heartfelt thanks.

In 2015, I was one of only two female Board members. Today, Croda has exceeded the gender and ethnic diversity requirements of the Parker Review and the FTSE Women Leaders Review and operates a fully gender balanced Board. I am proud of the progress that we have made on this topic, in line with my belief that diversity of experience is critical to Board effectiveness.

When I look back on almost a decade as Chair of Croda, I am pleased to have worked with Steve Foots and his executive team to transform Croda into a focused Consumer Care and Life Sciences company.

Introducing Croda's Chair-designate, Danuta Gray

"With its talented employees, positive culture and refocused portfolio, Croda has an exciting future and I look forward to working with the Croda team to deliver on the opportunities that are ahead."

Danuta was appointed to the Board on 1 February 2024 and will take over as Chair at the conclusion of the AGM on 24 April 2024. Danuta has held Board positions at FTSE 100 and FTSE 250 companies across a range of sectors and is currently Chair of Direct Line Insurance Group Plc and a Non-Executive Director and Chair of the Remuneration Committee at Burberry Group Plc. She is also a member of the Board of Trustees of the Resolution Foundation and supporter of Employ Autism. She has extensive Non-Executive listed company Board experience having previously been Chair of St Modwen Property Plc and also serving on the Boards of Aldermore Bank Plc, Old Mutual Plc, Page Group Plc, Paddy Power Plc and Aer Lingus Plc.

This transition has involved continued investment and multiple acquisitions during my tenure and has opened exciting new growth opportunities for the business.

It has been a great privilege to serve as your Chair and I am proud of the progress we have made. I would like to thank all of my Croda colleagues for their support and commitment and wish them all the best for the exciting future ahead.

Dame Anita Frew DBE
Chair

Our Purpose

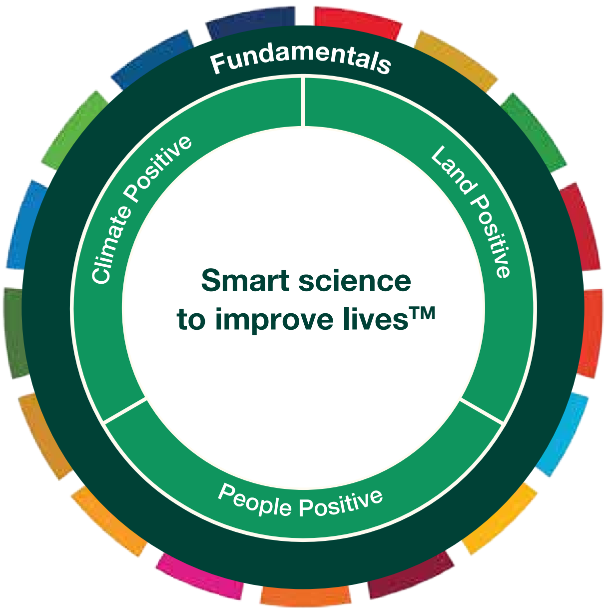
Smart science to improve lives™

Our Purpose, Smart science to improve lives™, remains constant and is embedded throughout our company. It guides how we operate and aligns our efforts to deliver positive impact for stakeholders.

Our Commitment

What we will deliver

We are committed to becoming the most sustainable supplier of innovative ingredients. We will develop and supply solutions to tackle some of the biggest challenges the world is facing and by 2030 we will be Climate, Land and People Positive.



Read more on our Commitment in our Sustainability Impact Report at www.croda.com

Our values-led culture

How we work

Our shared values of 'Responsible', 'Innovative' and 'Together' underpin our distinctive culture. These values drive collaboration, ownership and a solutions-oriented approach in support of our Purpose.

Responsible

Innovative

Together

For more information on our people and culture see pages 16–17

How our Purpose is embedded throughout Croda

Delivered through our strategy

Our strategy aims to create value by combining sustainability and innovation. By helping our customers to differentiate their products and meet their own ambitious sustainability goals, we deliver growth in our own business while creating positive impacts for planet and society. In this sense, our approach to growth supports our Purpose and desire to deliver positive impact.

Read more on pages 26-27

Integrated into our risk and opportunities framework

Risks and opportunities are identified, monitored, and managed both centrally and locally. This approach engages the entire business in considering risks and opportunities that arise from emerging sustainability and societal challenges. Our risk appetite is guided by our Purpose and we are willing to accept more risk where doing so is integral to delivering our Purpose.

Read more on pages 51-57

Governed by our Board

Our Board of Directors oversees both financial and non-financial performance, with robust governance processes in place and regular engagement from the Board on our culture and Purpose. In 2023, the Board created a Sustainability Oversight Committee to guide the sustainability strategy development and execution, providing greater oversight and challenge.

Read more on page 98-99

Reflected in our remuneration

Remuneration policies have included sustainability-related targets alongside financial and innovation-based targets in long-term incentive plans for over four years. In 2022, our annual bonus scheme was revised to include sustainability-related targets. Our Remuneration Policy therefore aligns with our Purpose, incentivising the use of Smart science to improve lives™, not just to drive financial performance.

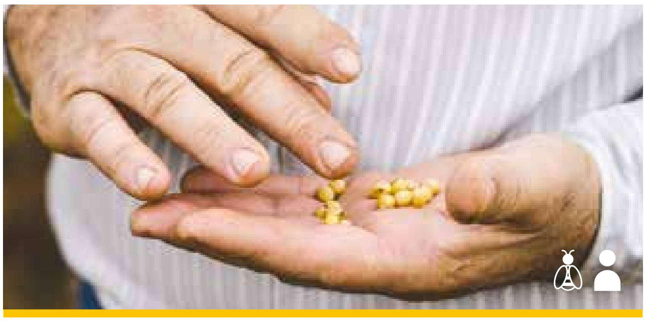
Read more on pages 106-108

Delivering positive impact

The breadth of our portfolio of sustainable ingredients and sector-leading Sustainability Commitment help us to have a positive impact on everyday life by...

...preventing, treating and potentially curing diseases through the development of drug delivery systems.

Find out more on page 45



...enhancing crop yields, enabling land savings and improving food security through the development of crop care technologies.

Find out more on page 45

...sustainably improving lives through the Croda Foundation which is working to improve access to healthcare, reduce poverty and hunger, and protect and restore ecosystems.

Find out more on page 8

...reacting to climate change and nature loss through the delivery of our 2030 Commitment and use of sustainable feedstocks.

Find out more on page 41

...promoting the hygiene, health, wellbeing and confidence of consumers through the creation of impactful Consumer Care ingredients.

Find out more on page 41

Key

Climate Positive

Land Positive

People Positive

Business model

What we do

We use our smart science to create high performance ingredients and technologies that improve people's lives.

We are a B2B company that, through direct local relationships, sells small quantities of high-value ingredients to customers of all sizes. These ingredients deliver vital functionality and downstream benefits at low inclusion levels, giving us a strong competitive advantage. We operate globally with a focus on high-value niches in consumer care and life science markets. We work closely with customers at every stage of the value chain and aim to enhance our reputation for innovation, sustainability and quality in everything that we do.

Read more about how we are driving positive impacts and operational excellence across the value chain on page 14

The solutions we provide

Consumer Care

We develop innovative and sustainable ingredients that provide vital functionality to consumer care formulations, enabling customers to differentiate their products, build strong brands, meet their sustainability commitments and satisfy changing consumer requirements. For example, we extract wrinkle-reducing actives from plants that are critical ingredients in anti-ageing skin creams.

See page 38

Life Sciences

Pharma

We develop components and systems for the delivery of Active Pharmaceutical Ingredients (APIs), supporting customers across the whole lifecycle of a drug – from early-stage research to commercial manufacture. For example, our ingredients encapsulate the mRNA used in vaccines allowing it to be transported into human cells.

See page 42

Agriculture

We are an innovation partner to major crop science companies and an increasing number of smaller customers, developing delivery systems to meet the sustainability challenges of current-generation products and to enable next-generation solutions. For example, our technologies ensure crop care formulations are biodegradable in the soil.

See page 42

Driven by our Commitment to be the most sustainable supplier of innovative ingredients

Climate Positive

We are successfully leading our sector in delivering absolute reductions in our GHG emissions, in line with our verified 1.5°C Science Based Target. We are working to provide our customers with the verified product-level carbon footprint data that, together with the reduced and avoided emissions in use that our technologies can bring, will help them deliver on their climate targets.

See page 34

Land Positive

Using natural resources brings with it the responsibility to take a holistic approach to the role natural ecosystems play in achieving global climate goals while addressing social inequalities. We are already Land Positive – with our crop and seed technologies saving more land than is used to grow our bio-based raw materials, and are working to deliver on our aspiration to contribute to a Nature Positive world by 2030.

See page 34

People Positive

Our People Positive commitments impact both our employees and wider society. We deploy our smart science to improve the lives of people around the world, targeting vaccine solutions to the most challenging diseases and protecting millions of people from damage caused by the sun. Internally, we recognise the value diversity of thought brings to our organisation and our responsibility to reward fairly and look after the health, safety and wellbeing of every employee.

See page 35

What our business needs

Employees
We employ 5,852 individuals, with employee costs accounting for approximately 20% of our sales. We commercialise and develop their skills and knowledge to drive a high return on sales. The employee base is expanding globally, with notable growth in science-based roles and increasing workforce diversity.

Raw materials
Raw material costs constitute approximately 35% of our sales. Our raw materials primarily comprise bio-based (rather than petrochemical-derived) resources, including grown commodities and natural oils. Overall, raw material costs fell in 2023, following a period of significant inflation in 2021-22.

Sites and infrastructure
We invest 6-8% of sales in capital expenditure annually to maintain, develop, and decarbonise our sites and infrastructure. Targeted organic investments are being made to scale up our pharmaceutical technology platforms.

Capital
Our capital requirements are primarily met through loans and credit facilities, including a sustainable banking facility, with no significant debt maturing before 2026. Our leverage ratio of 1.3x net debt to EBITDA is at the lower end of our targeted range of 1-2x over the medium-term cycle, providing flexibility for future organic growth and potential acquisitions.

R&D
In 2023, we allocated £62m to in-house innovation. This investment is supplemented by a robust pipeline of technology acquisitions and over 500 open innovation partnerships. These collaborations with universities, SMEs and leading scientists enhance our R&D capabilities and provide access to specialised expertise and facilities.

Supply chain and logistics
A global network of local warehouses ensures efficient delivery of ingredients to customers worldwide, despite recent global supply chain challenges. We have actively managed down our finished goods inventory back to pre-Covid levels.

Energy
Energy costs represent approximately 3% of our sales. Our efficient use of energy, sourced from diverse internal and external sources, minimises its proportion in our cost structure. Renewable energy was 37% of total energy use in 2023.

Regulations
Operating globally, we adhere to relevant regulations governing our product ingredients and applications, with regulatory change often driving requirements for our innovation. Active involvement in shaping regulations and standards, alongside collaborative efforts with industry partners, helps maintain product efficacy, increase competitive advantage and build stakeholder confidence.

Our competitive advantages

1. 'One Croda' culture
United by our strong sense of Purpose and our values, we work as one team. We promote a 'One Croda' culture through our Remuneration Policy and high levels of employee share ownership. We strive to be more agile and entrepreneurial than our competitors, with a decentralised operating model that ensures decisions are made 'close to customers'.

→ See pages 16-17

2. Customer intimacy
We employ our own local, science-focused sales force who understand our customers, rather than using distributors. This direct selling model builds relationships with customers and provides us with insights about their challenges that are key to how we innovate. We complement direct selling with local innovation centres where we co-formulate with customers to accelerate their time-to-market. This intimacy coupled with innovation enables us to anticipate future demands faster than our competition, particularly more disruptive market changes, such as the demand for sustainable ingredients and solutions from novel technologies.

3. Innovation leadership
We are the leading innovator in our markets with a technology portfolio differentiated by protected intellectual property and know-how, including over 1,600 patents across more than 275 patent families. This means our ingredients have unique attributes and deliver higher value to our customers. We have a collaborative, open innovation model which combines internal R&D with partnering and technology acquisitions.

4. Sustainability leadership
With a heritage of using natural raw materials and providing sustainable solutions, we have embedded a long-term sustainability strategy in the way we work to ensure we deliver on our Commitment to be the world's most sustainable supplier of innovative ingredients by 2030. With consumers and other end-customers keen to make a positive impact through their purchasing decisions, the creation of sustainable ingredients and offering sustainability claims through the use of our products are key drivers of our future commercial success.

5. Our approach to growth
Our growth strategy is focused on pioneering new market and technology niches where our leadership in innovation and sustainability allows us to compete on value rather than on price.

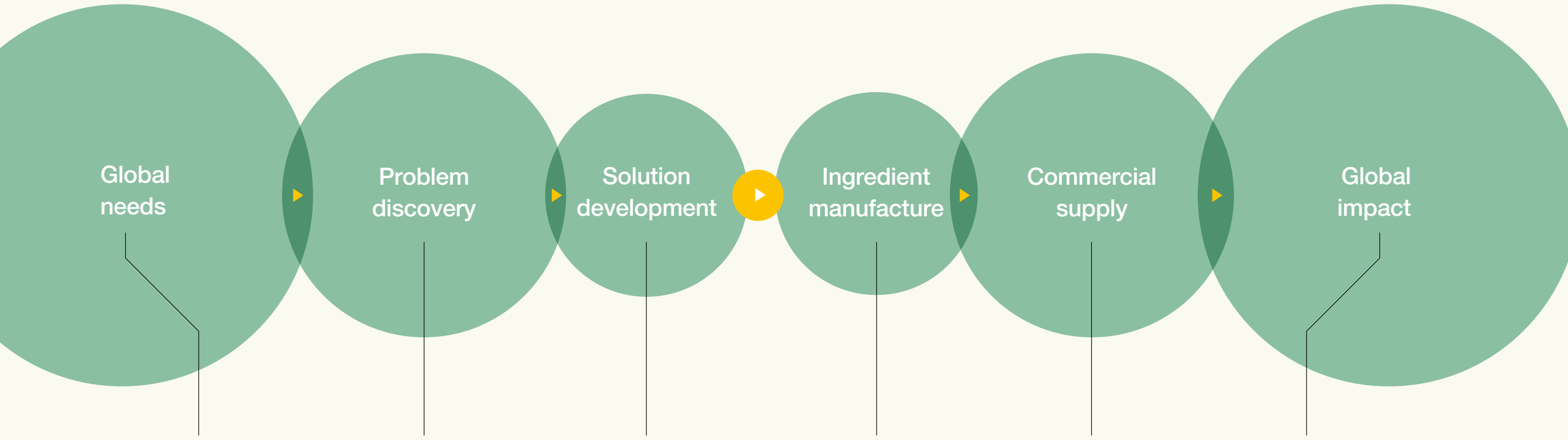
We operate flexible, capital-light manufacturing sites, rather than large continuous operation plans, producing ingredients in test tube quantities rather than tanker loads. Our principal focus is on driving the continued differentiation of our portfolio through innovation and sustainability. In parallel, we prioritise sales volumes in those parts of the portfolio where there is less differentiation to underpin consistent plant utilisation.

There is no one big competitor that spans all our markets; instead, there are different competitors in each of our niches. We have a broad base of customers, large and small, and a high number of customer/product combinations which reduces our exposure to any specific customer, market or geography.

Business model continued

Value creation, from discovery to supply

Croda sits at the intersection of bio-based raw materials and high-performing innovative ingredients. Through the application of our intellectual property and technology platforms, we transform basic feedstocks into ingredients that enable customers to maximise their impact with minimum footprints.



Our approach

Global population growth is challenging current assumptions about food production, healthcare and living sustainably within planetary boundaries. We have refocused our portfolio so our capabilities help address these challenges.

We sell and deliver ingredients directly to our customers using local warehouses for speed and flexibility, enabling us to develop local relationships that gives us access to privileged understanding of customer needs and future requirements.

We design innovative ingredients that deliver vital functionality with superior sustainability profiles to customer formulations and collaborate with customers at innovation centres around the world to understand their needs.

We produce ingredients to consistently high standards, using mainly bio-based raw materials at 42 sites globally, all of which have decarbonisation roadmaps in place.

We employ our own sales teams rather than use distributors, enabling us to build close partnerships with our customers and anticipate future demands.

By using our innovative ingredients, customers maximise the impact of their products with minimum footprints, so that our smart science contributes to improving lives.

How we are creating value

Consumer purchasing decisions, customers' public sustainability commitments and new regulations are significant drivers of change. We are exploring the use of AI and analytics to complement direct interaction with customers and regulators, enabling us to better anticipate change.

We are aligning sales, marketing and R&D with Consumer Care and Life Sciences, so that insights about customer challenges contribute more directly to how we innovate.

We are increasing our partnerships with universities and SMEs to access a broader range of scientific expertise and ensuring that all innovation is impact-focused by considering the lifecycle of customer products during the design phase.

We are focused on ensuring our sourcing has a positive impact on planet and society and are transforming how we manufacture to meet our Sustainability Commitment and support customers in meeting theirs. We are improving our understanding of asset utilisation to aid capacity planning, particularly during this period of limited visibility and uncertain customer demand.

We are improving our understanding of stock levels across downstream supply chains and rebalancing our finished goods inventories to strike the right balance between improving working capital and meeting customer needs.

We are building a more complete picture of the wider benefits in use of our ingredients by engaging with customers to understand the full lifecycle of our products.

Delivering stakeholder value

Employees

We take the safety and wellbeing of our employees seriously and pay all employees globally a Living Wage. Our people can have engaging and rewarding careers, undertaking meaningful purpose-driven work that has a positive impact on society and the environment. We regularly engage with employees through surveys, listening groups and other face-to-face engagement mechanisms, to understand their perspective, recognising that our people drive the future success of our business. Key topics of engagement in 2023 included safety, cost-of-living support, the challenging trading environment and need to control costs, and the impact of our new operating model. With the majority of employees actively participating in share schemes, we benefit from strong alignment of interests between stakeholders.

Customers and consumers

With sales of more than 6,000 products to more than 15,000 customers, our solutions enable a broad range of customers to differentiate their products. Our customers value our product quality, responsive sales teams, technical support, and the impact that our innovative and sustainable ingredients can have. We engage regularly with customers through our direct selling model and through customer surveys with over 3,000 responses received in 2023. Our customer NPS increased by 11 points to +34 in 2023 and sits within the category of 'Great', reflecting our desire to be close to customers. Engagement in 2023 often covered stock management, online service and recent innovation.

Suppliers

We are committed to fair payment practices but also partner with suppliers to help improve sustainability practices in supply chains. This includes helping them to understand our requirements on supply chain transparency, ethics, and human rights, with suppliers assessed through EcoVadis assessments. By 2023 83% of key suppliers by volume had been assessed by EcoVadis. With most of our carbon emissions embedded in our supply chain, engagement with suppliers to understand emissions data is critical in providing Product Carbon Footprint data to customers, but our focus goes beyond carbon, with a commitment to be Net Nature Positive and to reduce impacts on biodiversity.

Innovation partners

Our innovation activities include collaboration with academia, SMEs and our customers to accelerate innovation. Our shared knowledge enables our innovation partners to secure funding, advance science and make breakthroughs, ultimately helping us to grow sales of New and Protected Products as we commercialise this innovation. To date nearly 600 innovation partners have collaborated on over 300 innovation projects. Engagement topics in 2023 included sustainable innovation, leveraging biotechnology and green chemistry.

Shareholders

We aim to deliver consistent top and bottom-line growth in a way that benefits the environment and society, which should deliver attractive returns to shareholders over the long term. We engage extensively with shareholders to help them understand our performance and strategy and to gain insight that can help guide our thinking. In 2023, engagement included discussions on the challenging trading conditions and the impact on financial performance. We also continued to engage on our non-financial performance and strategy, reflecting the importance of ESG practices to our investors.

Communities

We support local communities through educational outreach and provide access to our smart science through the Croda Foundation, working to ensure that the local communities where we operate benefit from our presence. In 2023 Croda employees donated 5,310 hours of their time volunteering in local communities through the 1% Club and by the end of the year the Croda Foundation had improved the lives of more than 22 million people. Our community liaison activities are localised, ensuring our communities can engage on the issues significant to them.

NGOs

Acting responsibly ensures we satisfy regulatory requirements, protect our reputation and extend our positive impact through our influence within trade associations and other non-governmental organisations (NGOs). We engage with various NGOs on topics including upcoming regulations, supply chain sustainability and human rights both directly and through membership of industry working groups and task forces. This includes our work as part of Together for Sustainability, a consortia of chemical companies working to improve sustainability practices. In 2023, 88% of palm oil derivative volumes were RSPO certified.

Section 172(1) statement

The Board of Directors confirms that during the year under review, it has acted to promote the long-term success of the Company for the benefit of shareholders, whilst having due regard to the matters set out in Section 172(1) (a) to (f) of the Companies Act 2006, being:

- the likely consequences of any decision in the long term
- the interests of the Company's employees
- the need to foster the Company's business relationships with suppliers, customers and others
- the impact of the Company's operations on the community and the environment
- the desirability of the Company maintaining a reputation for high standards of business conduct
- the need to act fairly between members of the Company.

The information on pages 14 to 15 in the Strategic Report should be read in conjunction with the information provided in the Directors' Report on pages 78 to 81. The content on these pages constitutes our s.172 statement, as required under the Companies (Miscellaneous Reporting) Regulations 2018.

Our culture

Unlocking potential

We create an inclusive culture where our people feel able to give their best every day, are respected for who they are and recognised for the contribution they make.

Our people strategy strengthens our culture and creates inclusive and engaging environments. Our values of Responsible, Innovative and Together and their associated competencies guide everything we do and are reinforced through our performance reviews, succession, and talent planning and through organisational change.

Behavioural competency model

Our Purpose

Our Difference

Our Values

Foundational competencies

Self-led development

Functional/technical capability

	Responsible	Innovative	Together
Guiding value	Responsible	Innovative	Together
Associated behaviour	Authenticity	Curiosity	Working together
	Cross culture sensitivity	Strategic perspective	Empathy
	Inclusivity	Adaptability	Care and compassion
	Living the values	Delivery	Managing conflict

In 2023 we have continued to focus on accelerating growth, embedding the behaviours, skills and capabilities to help foster an organisation that acts responsibly, develops cutting-edge innovation, and works together as ‘One Croda’. We also transitioned to a new simplified organisational structure from the start of 2024, with Consumer Care and Life Sciences now responsible for both longer-term strategic development and operational delivery. This will improve accountability and create a more agile and responsive business to support our future growth ambitions (see page 31).

Measuring culture

Our Purpose and Sustainability Commitment (PSC) survey, introduced in 2022, helps us gain insight into how employees feel about aspects of Croda’s culture. Alongside town hall meetings and listening groups, the insight we gain is invaluable and helps us identify focus areas to improve employee experience and engagement. Overall, our PSC score for 2023 was 68%, flat against 2022, despite the challenging trading environment leading to increased pressure on our people.

71%
of employees are highly likely to recommend Croda as a great place to work to family and friends

76%
of employees are highly likely to see leaders and managers guiding them to achieve their activities safely

75%
of employees overall enjoy the work that they do

79%
of employees overall work to deliver their best as efficiently as they can

Looking below the headline score, we saw encouraging responses in areas for improvement that were identified in 2022 and became our focus for 2023. Reward and recognition saw improved responses, in part reflecting the cost-of-living pressures and our actions to support employees including one-off support payments, as well as the introduction of the Free Share Plan in 2021.

Employees’ ability to get involved with activities outside of their role and to focus on self-led development were scored less positively in 2023 but remained ‘good’. We view this as a symptom of the requirement to focus on delivering value in a challenging year. Although feedback suggests employees feel their workloads are more manageable, we believe we have more work to do in ensuring employees have time to be curious, develop and to get involved in employee-led activities that contribute to our culture.

We have already laid the foundations to improve with changes implemented to our hiring and talent planning activities in 2023. For instance, we implemented Competency Insights profiles for new hires to aid in the review of areas for initial development for new employees. In talent planning, departments worked with HR Business Partners to highlight potential career paths, aligned to the competences and skills needed in different roles and different areas of the business. This gives employees a clearer idea of where to focus their development activities and helps managers have more meaningful development conversations.

Reporting Data Pack 2023: All people-related data is included in our Reporting Data Pack which is available at www.croda.com. This includes employee numbers, pay ratios, training and safety data.

Developing our Employee Value Proposition (EVP)

In 2023, we developed our EVP framework to support our people strategy and to help our people connect with the core ideas that enhance Croda's culture. Our EVP focuses on:

Developing our people

The development and retention of high-quality people with the curiosity and ability to challenge conventional thinking and to further innovation ultimately determines the success of our business. Central to our philosophy is self-led development with extensive learning resources made available to our people. Our target is for all employees to receive at least one week's training in 2024, with our people collectively undertaking over 197,000 hours of training in 2023, equivalent to 33.7 hours of training per employee (2022: 26.1 hours). Our leadership development programmes offer a more structured approach to development with around 170 high-potential individuals participating in development programmes in 2023, with all those selected exhibiting model behaviours aligned with our values.

Our development programmes:

Leadership Development Group plus: For established senior colleagues in key roles, who may have completed other development programmes

Leadership Development Group: High performing, high potential senior colleagues

Accelerated Leadership Programme: High performing, mid-level colleagues showing leadership behaviours

Leading with purpose: A values-aligned development programme available to all grades

Phoenix Rising: For a cross section of colleagues looking to unlock potential and/or increase contribution – participants must display a strong commitment to inclusion and self development

Wellbeing and safety

Our leaders worked on embedding safety as a value in 2023, recognising that while priorities change, our values endure and guide how we behave. Through a tailored programme, more than 500 leaders have collectively undertaken over 4,500 hours of safety training aimed at building confidence around safety leadership and driving debate on safety. Scores for safety-orientated questions in our PSC questionnaires have improved, indicating that this focus is impacting how employees are feeling and interacting on safety initiatives. Our Total Recordable Injury Rate improved in 2023 (see page 35) but remains too high and we hope improving sentiment and focus on safety by employees is a positive leading indicator.

A collaborative and supportive workplace

We embrace our differences, nurturing an inclusive and supportive culture where everyone feels valued, respected and empowered to contribute. Employee-led diversity and inclusion networks support us in raising awareness, creating connections and ensuring that all aspects of diversity are considered in decision-making. Our 1% club allows employees to spend working hours contributing to local communities, with 5,310 hours donated in 2023. Our voluntary employee turnover remains below industry averages and in 2023 was 9.1% (2022: 8.5%), a small increase against the prior year reflecting the difficult trading environment in 2023 and near-term uncertainty.

Reward and recognition

We are committed to paying all employees a Global Living Wage and work closely with the Fair Wage Network to ensure employees continue to be paid more than this. Our reward framework supports our 'One Croda' culture with performance metrics for bonus schemes aligned across the Group. In addition, our Free Share Plan awards shares to employees who do not participate in our senior annual Bonus Plan when an award under this Bonus Plan is made, ensuring everyone shares in our success. Recent surveys indicate access to generous employee share plans is valued, with 83% of UK employees and 71% of non-UK employees participating in these schemes. Employees can also enjoy non-financial benefits, such as free healthcare plans, flexible working and other wellbeing focused benefits.

Positive impact through sustainable innovation

A key aspect of Croda's success is a can-do entrepreneurial spirit that pervades through our business. Our people have the freedom to find solutions, explore new ideas and collaborate to drive positive change, something that is celebrated through our annual 'Purpose in Action' awards. As a celebration of those who embody our Purpose and have a positive impact, the awards, hosted by Group Chief Executive, Steve Foots, recognise individuals and teams. In 2023, there were 98 projects nominated – many of which were employee-led initiatives born out of a drive to solve problems. The opportunity to have a positive impact through sustainable innovation is often a key factor in employees joining and staying with Croda.

Reasons to invest in Croda

A proven strategic direction

Capturing growth opportunities presented by megatrends

Long-term technology trends such as the demand for sustainable ingredients and the move to biologics are presenting significant opportunities for growth. We have aligned our portfolio with these megatrends, enabling us to help address some of the world's biggest challenges.

To find out more visit our website at www.croda.com

A strategy built on sustainability and innovation

Our strategy builds on our heritage of producing innovative ingredients from natural raw materials, combining sustainability and innovation to deliver growth.

To find out more see pages 26-27

Visit Croda.com to see our business in action

Strategic delivery in a challenging environment

"Despite the impact of the prevailing macroeconomic uncertainty, the technology trends that will drive our future growth have not changed with an accelerating transition to sustainable ingredients and biologics."

Steve Foots
Group Chief Executive

A challenging year with destocking and a weaker macro environment

Croda's performance in 2023 reflects challenging market conditions throughout the year with customer destocking and weaker economic conditions. It follows a record performance in 2021 and 2022 when the Group significantly benefitted from customers building up inventory levels in the face of strong consumer demand, escalating prices and supply chain disruption. As central banks raised interest rates to manage inflation and market conditions softened, customers subsequently reduced inventory levels, albeit at different times across the different market segments and geographies that we serve. For Croda and the wider chemical industry, this resulted in a prolonged period of destocking that was unprecedented in the breadth of its impact across most markets, compounded by a slower economic recovery in China than some of our customers had anticipated.

As a consequence, sales volumes were down across all sectors. Adjusting for the divestment of the majority of the Performance Technologies and Industrial Chemicals (PTIC) business to Cargill on 30 June 2022, Group sales fell by 11% on a pro forma basis to £1,694.5m (2022 pro forma (pf): £1,898m), comprising positive price/mix, lower volumes, a contribution for the Solus Biotech acquisition completed in July and a small headwind from currency translation.

In 2023, average customer inventories were below 2022 levels but remained elevated compared to pre-pandemic levels. In Consumer Care, indications are that destocking has largely worked its way through the supply chain with a slow improvement in sales volumes in the year. By contrast, weak industrial demand globally impacted Industrial Specialties where volumes remained weak. Similarly, customers in agriculture markets continued to reduce inventory levels throughout the second half year having started destocking in the second quarter, later than in other markets. In Pharma, our ability to react quickly with valuable lipid technology allowed us to support mRNA vaccine sales through the Covid-19 pandemic. Inevitably, as Covid demand fell, this resulted in lower shipments in 2023, contributing to just over half of the Life Sciences variance from prior year, but we still supplied c.$60m of Covid lipids in 2023 (2022: c.$120m). The Covid experience did allow us to establish our technology and provided us with valuable insights, facilitating resilient non-Covid sales as customer drug pipelines continue to develop.

Significant volume declines across most of our markets at a similar time led to low levels of capacity utilisation at our manufacturing sites, particularly those that produce ingredients for multiple business units, with negative operating leverage impacting profit margins. Whilst there are likely to be some bounce-back costs as trading normalises, there are also opportunities for margin expansion from higher sales volumes and improved mix particularly if the recovery is broad-based across our markets.

IFRS operating profit was £247.5m (2022: £444.7m) and adjusted operating profit was £320.0m (2022 pf: £476m), adjusting for the one-off exceptional items outlined in the Finance review. The adjusted operating margin of 18.9% (2022 pf: 25%) was negatively impacted by the operating leverage effect of the reduction in volumes and lower sales of high-margin lipid systems for Covid-19 vaccine applications. Profit before tax (on an IFRS basis) was £236.3m (2022: £780.0m), with the prior year including a gain on the PTIC business divestment of £356.0m, and adjusted profit before tax was £308.8m (2022 pf: £463m).

Despite the impact of the prevailing macroeconomic uncertainty, the technology trends that will drive our future growth have not changed with a continued transition to sustainable ingredients and biologics. We have successfully realigned our portfolio with these megatrends and are making strategic progress with continued investment through the downturn in R&D and capacity. Demand for innovation has remained strong among our customers, which will be key to driving a recovery in Croda's performance as the macro-environment improves. Sales of New and Protected Products (NPP) held up well at 34% of total sales (2022: 35%), with an increase in the proportion of NPP sales in Consumer Care. Customer demand for our ingredients that are differentiated by their sustainability characteristics has also been resilient with sales of ECO surfactants, for example, up by more than 20% year-on-year.

Our commitment to sustainability is demonstrated by the progress we have continued to deliver in our non-financial performance. We remain on track to meet our 2030 Science Based Targets for emissions reduction, the Croda Foundation has already sustainably improved the lives of more than 22 million people and we delivered more than 4,500 hours of training to leaders as we embed safety as a value. Our sustainability leadership was recognised by CDP, which awarded us leadership status for the first time, complementing our long-standing triple A rating from MSCI.

Managing challenging market conditions

To mitigate the impact of tough trading conditions, we took some immediate actions to actively manage cash flow and address costs to protect profitability, while increasing customer sales activity to drive incremental sales growth. Production schedules were optimised to meet lower demand, reducing energy and freight costs. Underlying employee costs were broadly flat as inflation-based salary increases were offset by a hiring freeze and natural attrition. In addition, Group margin benefitted by one and a half percentage points due to negligible charges for variable remuneration. Cash flow improved through proactive management of working capital and our balance sheet remains strong, enabling us to pay an increased full year dividend and to continue to invest the £665m proceeds from the divestment of PTIC, the business we sold in 2022.

Alongside these temporary cost reduction measures, we have been driving improvements that will deliver sustained benefits to our operational effectiveness over the longer term. Priorities have included consolidating our site footprint and delivering our 'doing the basics brilliantly' programme to drive ongoing efficiencies. This programme will improve customer experience and employee productivity through a combination of customer insights, digital technology, and streamlined processes. Our customer net promoter score (NPS) has improved further from +23 in 2022 to +34 in 2023.

Following rapid portfolio transition in recent years through the acquisitions and divestments we have made, a new organisational structure has been in place since the start of 2024 to further streamline our operating model. Previously, the Consumer Care and Life Sciences sectors were responsible for strategy whereas the regions were responsible for performance. Now, all regional teams, including sales, R&D, marketing, customer service and manufacturing, report directly into Consumer Care and Life Sciences. The Presidents of these sectors are now fully accountable for their performance and strategy including innovation, sustainability and the acquisition of technologies aligned with our strategic priorities. This clarifies accountability, simplifies the organisation for our employees, is more cost efficient and will ensure we deliver faster and more effectively for our customers, positioning us well to take advantage of the recovery.

Regional summary

Key drivers of performance were similar globally in 2023, notably a slow but steady improvement in Consumer Care in the second half year as customers worked through heightened inventory levels but a weakening performance in Life Sciences mainly driven by rapid destocking by Crop Protection customers which began in the second quarter. Performance in Asia reflected these global drivers, with Consumer Care improving and Life Sciences weakening during the year. Despite demand in China not recovering as quickly as some of our customers had anticipated, our direct Consumer Care sales to China were robust, partly owing to strong relationships with regional customers who value our innovation expertise. Sales fell in North America although the declines were less significant in the second half year and we began to win back some sales in Consumer Care which were lost in 2022 through our inability to supply ingredients for certain periods. Consumer Care sales grew in Europe, particularly in Beauty Care and Home Care. Latin America was the strongest region but saw adverse impacts from destocking in Crop Protection as well as significant currency movements during the second half year.

Sector summary

Consumer Care – leadership in innovation and sustainability driving demand

Consumer Care sales fell 1% to £886.1m (2022: £897.8m) with strong double-digit percentage sales growth in Fragrances and Flavours (F&F) but lower underlying sales in Beauty Actives, Beauty Care and Home Care. Price/mix was up 2%, mainly due to a positive mix impact from Beauty Actives, with pricing broadly flat. Sales volumes were down 4% year-on-year but were up 9% in the second half year compared with the second half of 2022. Acquisitions added 1% due to sales of ceramides following the Solus Biotech acquisition, with foreign currency translation a small headwind for the full year.

IFRS operating profit was £127.8m (2022: £144.5m) and adjusted operating profit was £160.3m (2022: £204.7m), resulting in adjusted operating margin reducing to 18.1% (2022: 22.8%). Four and a half percentage points of the margin decline was due to the operating gearing effect of continued weak volumes in Consumer Care, compounded by lower volumes in Life Sciences and Industrial Specialties which share the same manufacturing assets, with overheads therefore allocated across all sectors. Two percentage points of the margin decline was due to weaker mix, primarily as a result of strong growth of lower margin F&F sales, with the lower variable remuneration charge and earn out accrual release providing a two percentage point offset.

In Consumer Care, our leadership in sustainability and innovation continues to drive customer demand for Croda's differentiated ingredient portfolio. NPP improved to 42% of total sales (2022: 41%) and sales of sustainable ingredients such as ECO surfactants and biotech-derived ingredients were stronger than other ingredients in our portfolio. To support demand for lower carbon ingredients, we can now provide carbon footprint data for three quarters of the Beauty Care portfolio so that customers can quantify the benefits associated with using our ingredients in their products. Sales to Asia exceeded sales to North America for the first time with significant potential for further growth. We are prioritising the region for investment in R&D and manufacturing, particularly in China and India where underlying sales grew 12%.

The stand-out performer in 2023 was F&F which delivered 18% underlying sales growth, benefitting from its distinctive positioning in fast-growing markets and agile, cost competitive model. F&F sales were up in all product categories and established regions, with the Middle East particularly strong. F&F's excellent sales growth principally reflects its high exposure to local and regional customers outside North America and Europe, as well as sales synergies that are being realised under Croda's ownership.

In Beauty Actives, reported sales were up 4% or down 1% on an underlying basis (i.e. excluding the Solus Biotech acquisition). Positive mix helped offset weaker volumes as sales of Sederma active ingredients grew, particularly in China, whereas sales of lower value botanical ingredients fell. Beauty Actives supported customer product launches including the new Boots No7 Future Renew range and a new Deciem product that repairs scars caused by acne. Having completed our acquisition of Solus Biotech in July, we are excited about the opportunities that the addition of further fermentation-derived active ingredients, notably ceramides, are starting to open up.

Performance remained weakest in Beauty Care with sales down 11% driven by lower volumes. Our approach here is to manage sales volumes in the less differentiated parts of the portfolio to help base-load our manufacturing assets and cover fixed costs, while accelerating differentiation by driving innovation, enhancing the sustainability profile of our ingredients, and transitioning our manufacturing processes to biotech and other low carbon technologies. The 20% plus growth in sales of ECO surfactants during a challenging year, and a continued increase in sales of sulphate-free 'clean' surfactants, illustrate continued customer demand for bio-based, lower carbon and biodegradable ingredients.

The recovery of sales volumes in Home Care accelerated as the year progressed, with underlying sales down 1% year-on-year but up 12% in the second half compared with the second half of 2022. Once again it was sales of innovative ingredients differentiated by sustainability that led the way, including our range of biopolymers which extend the life of fabrics with future growth underpinned by a long-term contract with a key customer.

Life Sciences – continued progress building industry-leading positions in high-growth markets

Life Sciences sales were down 12% to £602.3m (2022: £682.3m), with approximately seven percentage points of the reduction due to lower sales of lipid systems for Covid-19 vaccine applications. On a reported basis, positive price/mix of 3% partly offset a 15% decline in volume, the majority of which was due to destocking by Crop Protection customers with a small effect from similar trends in consumer health. There was also a contribution from six months of phospholipid sales following completion of the Solus Biotech acquisition in July and a small foreign currency headwind.

IFRS operating profit was £131.7m (2022: £220.3m) and adjusted operating profit was £150.3m (2022: £229.4m), resulting in an adjusted operating margin of 25.0% (2022: 33.6%). Six percentage points of the margin reduction was the result of adverse price/mix mainly due to lower Covid lipid sales, and four percentage points was the result of the negative operating leverage effect of lower volumes, mainly in Crop Protection, partly offset by the benefit from a negligible variable remuneration charge.

Crop Protection is developing sustainable crop care solutions as well as delivery systems for biopesticides, launching two new delivery systems, one specially designed for biologicals and the second for drone delivery. Following an exceptional 2022, when Crop Protection delivered both strong double-digit percentage volume growth and price/mix, the business started the year with good momentum, but began to experience rapid customer destocking in the second quarter. Volume weakness continued throughout the second half year, to fall 21% year-on-year with a small offset from positive price/mix, resulting in sales falling 19% overall. In Seed Enhancement, most sales are derived from providing just-in-time enhancement services for vegetable seeds so the business only saw a limited impact from destocking, delivering 9% sales growth driven by strong structural growth trends. Seed Enhancement is winning market share through its leadership in microplastic-free seed coatings which are in high demand following the EU's decision to ban the use of microplastics in agriculture in the next five years.

Pharma continued to make good progress with its industry-leading position in biologics drug delivery as well as recent partnerships and new product launches further strengthening the pipeline of opportunities. Pharma sales fell 11% but grew 3% excluding lipid sales for Covid-19 vaccine applications. Whilst we were not immune from the challenges impacting the market, including customers reducing inventory levels, Covid normalisation and funding constraints for early-stage biotech companies, the breadth and diversification of our pharma portfolio enabled the business to deliver a resilient performance. Destocking primarily affected the heritage consumer health business where customer products are often sold over the counter, with lower Covid-19 demand adversely impacting Adjuvant Systems sales as well as lipids for Covid-19 mRNA vaccines. By contrast, drug delivery technologies for Small Molecule, Protein and Nucleic Acid applications continued to grow.

To drive the growth of Protein/Small Molecule Delivery we opened an applications centre in 'Genome Valley', Hyderabad, India, and launched our first processing aid for biopharma (technologies which are integral to the production of therapeutic proteins) which secured its first sales within three months of launch. The future growth of Adjuvant Systems will benefit from the launch of a new proprietary lipid-based adjuvant and two new adjuvant partnerships agreed with Amyris and BSI. One of these is for a sustainable squalene adjuvant that is produced by fermentation, which is already being qualified by three major vaccine companies. In Nucleic Acid Delivery, shipments of c.$60m of lipid systems to our principal Covid vaccine customers occurred as planned at the end of the fourth quarter, benefitting sector operating profit margin. Continued growth will be driven by the commercialisation of new nucleic acid drugs with the number in development continuing to expand, and Croda supporting most of those that specify a lipid delivery system. The strong medium-term growth trajectory for Nucleic Acid Delivery is likely to be realised in three phases: firstly, mRNA vaccines for infectious diseases, where we are working closely with the Big Pharma companies driving this development; secondly, oncology applications which require more targeted delivery systems; and thirdly, gene editing therapies such as a CRISPR treatment for sickle cell anaemia which we are supporting and was recently approved by the US FDA.

Industrial Specialties – contributing to the efficiency of our manufacturing assets

Following the PTIC divestment, the retained business became Industrial Specialties (IS), operating a supply contract to the new owner of the divested business and contributing to the efficiency of our shared manufacturing site model by helping to optimise utilisation rates. On a pro forma basis, sales fell 35% to £206.1m principally due to lower volumes, reflecting destocking and weak industrial demand globally, and limiting the ability of IS to help optimise site utilisation. Pro forma adjusted operating profit fell 78% to £9.4m as negative operating leverage compounded the impact of lower volumes. The impact of these adverse market conditions on the SIPO joint venture in China resulted in a goodwill impairment charge of £20.8m taken at the 30 June 2023 balance sheet date. Including the impairment charge, the reported IFRS operating loss was £12.0m (2022: £79.9m profit), with the prior period including the full contribution from the divested business.

Continued balance sheet strength

Our focus on active cash flow management in 2023 delivered excellent results with improved free cash flow reflecting a £29.1m working capital inflow (2022: £133.8m outflow) more than offsetting lower profit and higher capex. In particular, we focused on managing down our own inventories, with stock days falling by approximately 20% during 2023. We expect our finished goods inventories to be back to pre-pandemic levels by the end of the first quarter of 2024, mitigating the risk that selling from stock (manufactured from higher cost raw materials) has a detrimental impact on profit margins.

With improved free cash flow of £165.5m (2022 restated: £157.4m), our balance sheet remains strong and we closed the year with net debt of £537.6m (2022: £295.2m), including the £227.4m consideration paid on completion of the Solus Biotech acquisition in July 2023. The resulting debt leverage ratio was 1.3x (2022: 0.5x), within our one to two times target range, despite the lower EBITDA.

Given the challenging market conditions, we reviewed the pace of in-flight capital expenditure projects, as well as all new proposals for non-safety-critical projects, whilst continuing to invest in our refocused portfolio to drive profitable growth. This resulted in some capital expenditure originally planned for 2024 being delayed until 2025. Organic capital expenditure in 2023 was broadly as expected at £170.1m (2022: £138.5m), focused on growing our R&D capability, in Asia especially, and expanding our manufacturing footprint to increase capacity.

With our strong balance sheet, we have been able to continue to invest despite the weaker macroeconomic environment. R&D investment included a new Consumer Care laboratory in Shanghai, China and a new applications centre in Hyderabad, India to support growing demand for protein and small molecule delivery from pharma customers. With our Pharma business a top priority for capital allocation, we also opened an adjuvant systems lab in Denmark and are due to expand our R&D capabilities for nucleic acid delivery at Alabaster in the USA and in Singapore in 2024.

Alongside investments that help deliver the carbon reduction roadmaps that we have put in place for all Croda sites, we have also invested in capacity expansion focused on Asia, including starting construction of a new surfactants plant in Dahej, India, and the first stage of a £30m investment in a combined Beauty Actives and F&F manufacturing facility in Guangzhou to grow domestic sales in China. In addition to our typical capital investment of around 6-8% of sales, we are investing an extra £175m over the period 2021 to 2024 to scale up Pharma production, particularly to meet forecast market demand for new nucleic acid drugs which are widely expected to come to the market from 2025, with the US and UK Governments co-investing up to an additional £75m combined. We have invested over £110m in the programme to date. As a result of

Chief Executive's statement continued

"We complement organic investment with selective acquisitions of adjacent technologies, particularly those which can accelerate our transition to greater use of natural raw materials or build new technology platforms, enhancing future growth."

the review of phasing of current capital projects, total capital expenditure is expected to fall slightly in 2024, but with heightened levels of capex (compared to the pre-2021 period) continuing through 2025 as the Pharma facilities are built and capacity in Asia comes on-stream.

We complement organic investment with selective acquisitions of adjacent technologies, particularly those which can accelerate our transition to greater use of natural raw materials or build new technology platforms, enhancing future growth. The acquisition of Solus Biotech from Solus Advanced Materials has excellent alignment with our strategic priorities, expanding our Asian manufacturing capability, adding a new biotechnology R&D hub in the region, and providing our Beauty Actives and Pharma businesses with access to Solus' existing biotech-derived ceramide and phospholipid technologies, and its emerging capabilities in natural retinol. We will drive sales growth by leveraging Croda's global selling network and formulation science expertise.

Capital deployment will be executed within our consistent capital allocation policy, set out in the Finance review. Alongside organic and inorganic investment, the policy provides for a regular and increasing ordinary dividend to shareholders, while operating an appropriate balance sheet. With 32 years of unbroken dividend progression, consistent distribution to shareholders is a critical consideration for the Board. Therefore, despite temporarily taking us outside our stated through-the-cycle payout ratio of distributing 40-50% of earnings, we have proposed a small increase in the full year dividend at 109p a share (2022: 108p). The Board is keeping the Company's future capital requirements under close review.

Strategy overview – megatrends intact; continued strategic investment through the downturn; well positioned for market recovery

Strategy overview

Despite the challenging market conditions in 2023, the technology trends that will drive our future growth have not changed with continued demand for sustainable ingredients and a continued transition from small molecule active ingredients to large molecule biologics. Through the acquisitions and divestments we have made in recent years, we have successfully realigned our portfolio with these megatrends and our strategy of combining sustainability leadership with market-leading innovation is unchanged.

In line with our Purpose of using Smart science to improve lives™, we enable customers to realise their sustainability ambitions through the application of our innovation and the creation of sustainable ingredients. We are reinforcing our sustainability leadership by reducing the adverse impact of our operations, by replacing fossil-based ingredients with bio-based materials, reducing emissions, promoting biodiversity and ensuring our sourcing activities make a positive contribution to communities in our supply chains. Our sustainability leadership delivers benefits that are increasingly valued by our customers; for example, we can now provide cradle-to-gate product-level carbon footprint data for approximately 1,300 of our ingredients so that customers can quantify the benefits associated with using them in their products. We are continuing to expand this data set to cover more of our ingredient portfolio and a broader range of sustainability factors.

Innovation is at the heart of what we do, creating new market and technology niches. We filed more than 100 new patents in 2023 and have stepped up our rate of innovation through more external partnerships, for example with Amyris and BSI for sustainable vaccine adjuvants. Even in the unprecedented market conditions that we have seen this year, customers are continuing to invest in new product development, drawing on Croda's deep scientific expertise and application-focused innovation. The foundation of our innovation model is internal R&D investment, applying the expertise of our scientists at our global innovation centres to meet customer needs. Our R&D teams now report directly into Consumer Care and Life Sciences, ensuring that our priorities are customer driven. This is complemented by 'big bet' projects often delivered with partners from our open innovation network which provides access to universities and SMEs, helping develop new intellectual property.

Strategic priorities

We are implementing specific strategic priorities to ensure our refocused portfolio delivers consistent top and bottom-line growth. Alongside our sector strategies we are (1) scaling biotech, (2) exploring acquisition opportunities to supplement organic capital deployment, (3) investing in fast growth in Asia, and (4) improving our customer and employee experience through our 'doing the basics brilliantly' programme.

'Scaling biotech' will transform our approach to sustainability, particularly in reducing customers' scope 3 carbon emissions. Projects are underway to develop bio-based fragrance ingredients, prioritising aroma chemicals which are used in a high proportion of our fragrance references. Our Beauty Care business is adding biotech-derived surfactants to our existing ECO range, and Beauty Actives is launching novel anti-ageing actives developed through collaboration between our biotech and high throughput screening centres in the UK, France and Canada. This is one example of how Croda is reinforcing its leadership in biotechnology, established over more than a decade in plant cell cultures and fermentation, and now being enhanced by investment in processing for scale up, biocatalysis and synthetic biology.

We are supplementing our organic investment with 'acquisitions', where our global scouting network identifies potential adjacent technology opportunities in Consumer Care and Life Sciences with the acquisition of Solus Biotech in South Korea completed in the year.

There are significant emerging opportunities for Croda across Asia particularly in consumer care and pharmaceutical markets. We are driving 'fast growth in Asia', by investing in innovation and sales resource plus selective expansion in manufacturing.

Our 'doing the basics brilliantly' programme is simplifying our operating processes to improve employee productivity and driving efficiencies within our well-established customer-centric model including a new online ordering portal complemented by more self-serve data for customers. The programme is delivering good results including a 6% improvement for 'ease of doing business' alongside a further increase in overall net promoter score in our latest customer survey.

Sector strategies

Our sector strategies are to 'strengthen to grow' Consumer Care and 'expand to grow' Life Sciences. We are 'strengthening to grow' Consumer Care to be the most innovative, sustainable and responsive solution provider globally. Even in the current trading environment, demand for innovation remains strong and we are continuing to enhance our portfolio by adding more fermentation-derived ingredients and high-performance replacements for fossil-based products. Similarly, we are broadening our unrivalled ability to substantiate ingredient claims to include product-level carbon footprint data, incorporating the impact of decarbonisation to 2030. Finally, the continued fragmentation of consumer markets plays to our strengths as we partner with customers large and small globally, enabling smaller customers to partner with us to launch their products quickly.

The move to biologics is the key structural driver of growth in both pharmaceutical and agriculture markets over the next decade, and we are ‘expanding to grow’ Life Sciences to empower biologics delivery. In agriculture, this move will enable greater targeting of actives and reduced biodiversity impact. In this market we are positioned as an innovation partner for delivery systems, creating new systems specifically for the delivery of biopesticides and meeting the sustainability challenges of conventional pesticide delivery. In pharma markets, the move from chemical to biological active pharmaceutical ingredients is already underway and we have developed a portfolio focused on segments with the highest development and innovation needs. As a result, our pharma portfolio has a well-diversified risk profile and opportunity set, which we are expanding through new technologies from our own innovation pipeline and via partnerships. The competitive positioning of our Pharma business is extremely strong, providing delivery systems that are critical to next-generation drugs and with excellent customer relationships spanning drug discovery through to commercial supply.

Future performance drivers

In Consumer Care, average customer inventory levels have fallen and volume recovery should be an important driver of near-term performance, particularly in Beauty Care which has broad market exposure and is larger than the other business units. Our approach in Beauty Care is to manage sales volumes in those parts of the portfolio where there is less differentiation to underpin consistent plant utilisation while also accelerating portfolio differentiation through innovation, sustainability and biotech. More recent additions to Consumer Care, including ceramides in Beauty Actives – which have significant growth potential, and the F&F business – which is delivering impressive sales growth albeit at margins which are below the average for Consumer Care, can also influence our future performance. Geographically, Asian consumer care markets are likely to grow faster than the rest of the world, particularly in India and China. While our direct sales to China have remained robust, a broad-based recovery in Chinese consumer spending and travel would underpin improved global demand for consumer care products.

In Life Sciences, an end to destocking in Crop Protection markets would be an important driver of improved performance in the near term. However, the timing of this inflection point is uncertain as destocking started later, and customer concentration is higher, so demand can be determined by the buying decisions of four or five major customers. In addition, agriculture markets are seasonal, so a lack of demand can mean that a whole season is missed, but conversely when a recovery comes it is likely to have a more immediate effect. Historically, the market for field crop seeds experiences changes in demand later in the cycle, so the market environment could be tougher in 2024, but for Croda, this risk is mitigated by our focus on vegetable seeds as well as market leadership in microplastic-free seed coatings and the incremental opportunities that are being created by regulation change.

The challenges that faced pharmaceutical markets in 2023, including the reset of demand post Covid-19, destocking and contraction in the availability of early-stage funding, appear to be temporary rather than structural, but their effects could continue into 2024. Over the longer term, accelerating growth and margins will be driven by incremental revenue from our own innovation pipeline and the commercialisation of new biologic drugs. The drivers of future performance in Pharma are therefore the rate of growth of our new delivery systems and vaccine adjuvants that we are bringing to the market, many of which are already generating revenue and have meaningful peak sales projections, and the pace of approval of new mRNA drugs and vaccines, a high proportion of which we are supporting during clinical trials and have invested capital in to be able to produce at scale when launched.

Outlook

Consumer Care has started the year well and we are cautiously optimistic about the improving demand trend we experienced in January. Within Life Sciences, we expect the non-Covid Pharma business to grow but that destocking will continue in Crop Protection. Demand in Industrial Specialties is expected to remain weak.

Given the ongoing uncertainty in our end markets, the recovery trajectory for each of our business units remains difficult to predict and the range of possible outcomes in 2024 is therefore wider than usual at this stage of the year. Overall, however, the Group expects to deliver mid to high single digit percentage sales growth in 2024, excluding the c.$60m of Covid-19 lipid sales in 2023, with higher sales volumes more than offsetting lower price/mix.

We expect 2024 Group adjusted operating margin to be two to three percentage points lower than 2023 due to the following:

- Different business mix effects year-on-year, with no Covid-19 lipid contribution and continued strong growth in Fragrances and Flavours.
- Low overhead recovery is expected to persist as sales volumes remain depressed in Crop Protection and Industrial Specialties, two of the three businesses with the highest production volumes, alongside Beauty Care.
- To support the return to sales growth, the cost base will reset back to a more normalised level from its low point in 2023. This will include the likely unwind in 2024 of the c.£25m benefit we saw in 2023 from a negligible variable remuneration charge. Some of this will be offset by modest cost savings from our recent reorganisation.
- We will continue to invest to support our long-term strategy. Customer interest in innovation and sustainable ingredients remains strong, despite the current destocking cycle.

Using these assumptions and at current exchange rates, we expect Group adjusted profit before tax to be between £260m and £300m in full year 2024.

Croda will report sales performance quarterly during 2024 and we will provide an update on first quarter trading at the AGM on 24 April 2024. Croda expects to return to its normal cycle of half yearly reporting in 2025.

With our strong balance sheet, improving cash flow and consistent investment in our refocused portfolio, Croda is well positioned to take advantage of the demand recovery when it occurs. We expect the Group’s performance to accelerate from 2025, generating continued increasing returns for our shareholders.

Steve Foots
Group Chief Executive

The Strategic Report was approved by the Board on 26 February 2024 and signed on its behalf by Steve Foots.

We use a number of Alternative Performance Measures (APMs) to assist in presenting the information in this report. For detail on any APMs used see the Finance review on page 50.

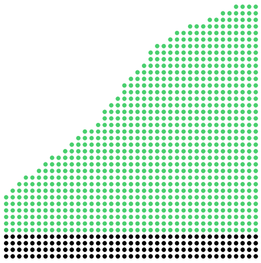
Megatrends

Delivering solutions for the changing world

Meeting global challenges

Of the trends affecting our markets and supply chains, we have identified three key global challenges that our strategy helps to address.

Feeding a growing population and restoring nature

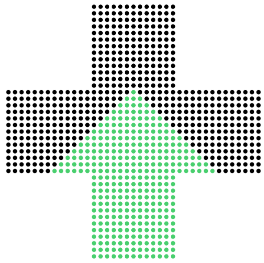


Feeding a global population that is expected to reach 10 billion people by 2055 will require a 70% increase in agricultural output[1]. With most suitable land already farmed, increased output will come from higher yields and growing more resilient crops on less suitable land, supported by restoring degraded ecosystems and nature.

Living more sustainably within planetary boundaries

Population growth and increasing consumption, fuelled by the expansion of the middle class particularly in developing countries, are putting pressure on planetary systems such as water, climate and biodiversity, and scarce natural resources. Addressing this challenge requires transformational new approaches to consumption and circularity.

Global demand for health and wellbeing



The pandemic has made consumers more conscious of their physical and mental wellbeing, and expanded demands on healthcare systems, already increasing due to a growing and ageing population. This has increased demand for effective ingredients that are underpinned by science and support physical and mental health.

Technology trends affecting our markets

Move to sustainable ingredients

With population growth and increasing consumption putting pressure on planetary systems, consumers are supporting companies they think are acting responsibly and providing solutions to the causes and impacts of climate change. This is influencing consumer decisions when it comes to the products that they buy.

As a result, consumer-facing companies are looking for ingredients that enable them to deliver products with substantiated claims and transparent information about their social and environmental impacts.

The move to sustainable ingredients is not confined to the consumer market, with crop science companies seeking biodegradable ingredients with a low carbon footprint, that can make a positive contribution to improving yields, soil health and biodiversity.

Growing demand for sustainable ingredients is also driving increased regulation by industry and national authorities.

Move to biologics

The move to biologics – large molecules manufactured using microorganisms rather than small molecules made by chemical synthesis – is transforming medicine and agriculture.

Biologic drugs are much better at treating disease in a targeted way with fewer side effects, but they are hard to make, difficult to stabilise, and need sophisticated delivery systems. Nucleic acid drugs that teach the body to make its own medicine represent the next phase in the move to biologics, further enhancing patient outcomes and increasing drug complexity.

Biologically active technologies, including naturally occurring microbes and RNA interference, are also being used as precisely targeted, environmentally friendly pesticides.

The ability for these biologics to target specific elements in the host offers significant opportunities to reduce negative impacts on the planet and society.

1. Food and Agriculture Organisation of the United Nations. Global agriculture towards 2050.

Market environment

Navigating a complex market

Short-term market drivers

Impact of high inflation

Four years after the outbreak of Covid-19, our market environment has continued to experience the ripple effects of the pandemic and subsequent surge in demand as lockdowns were lifted.

The challenges businesses faced meeting surging demand, compounded by the impact on energy and food prices of Russia's invasion of Ukraine, resulted in the highest inflation the global economy has seen for the last 15 years.

From early 2021 until mid-2022, in the face of escalating prices, our customers bought ingredients as early as possible to reduce their costs, resulting in the unprecedented stocking of supply chains.

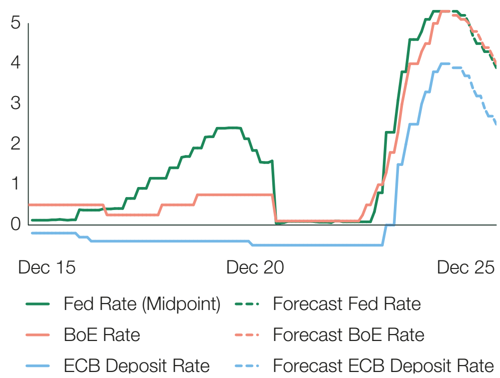
From the start of 2022, central banks began increasing interest rates to manage inflation and reduce overall spending. As this monetary tightening took hold, customers began to reduce inventory levels, albeit at different times across the different market segments that we serve.

One impact of this change in the trading environment was that raw material costs fell during 2023 enabling us to reduce prices in market segments where price is important to competitiveness.

Higher interest rates have also negatively impacted the availability of funding, particularly for early-stage companies which often drive the development of nascent technologies in sectors such as pharmaceuticals. To date, the impact of this funding squeeze on Croda's Pharma business has been limited, as the development of novel drugs that use our delivery systems, such as mRNA vaccines for respiratory diseases, are principally driven by 'Big Pharma'.

With inflation now falling and the US Federal Reserve indicating that the period of tightening monetary policy could be over, interest rates are likely to fall in 2024, supporting lower volatility in customer demand.

US, UK and EU central bank interest rates (%)



Source: Interest rate forecasts are from Bloomberg as at 19 January 2024.

Rapid and indiscriminate destocking

The chemical industry has experienced a prolonged period of destocking with an impact across all markets.

In 2021-22, customers carried higher levels of inventory to meet surging demand, avoid disruptions and as a hedge against inflation. With higher interest rates in 2023, customers have freed up capital held in excess stock.

Destocking has been compounded by a weaker demand environment, particularly in China, where the economy has not recovered from Covid-19 as fast as some of our customers were anticipating.

As a result, order visibility has been shorter than normal, and sales volumes were down across most markets. This led to low levels of capacity utilisation at our 'shared' manufacturing assets (that produce ingredients for multiple business units) with negative operating leverage impacting profit margins.

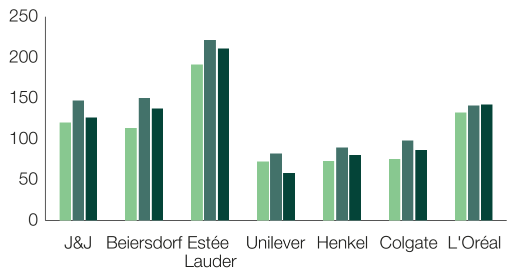
Encouragingly, customer demand for our ingredients that are differentiated by their sustainability characteristics has been resilient and demand for innovation has remained strong.

In 2023 customer inventories remained elevated compared to pre-pandemic levels. In Consumer Care inventory levels reduced through the year as shown in the chart below, but in Crop Protection inventory levels remained significantly elevated. Looking into 2024, whilst geopolitical risks remain heightened, customer inventory levels should continue to fall.

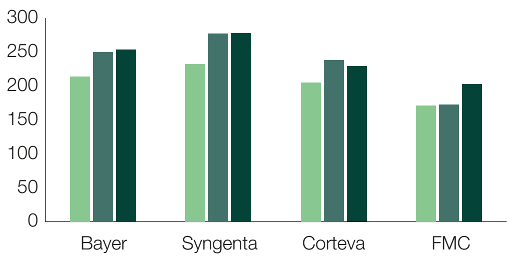
Inventory days for large customers

Pre-Covid 2022 2023

Consumer Care customers



Crop Protection customers



Source: Inventory days are derived from public company disclosures for the relevant customer.

Strategy

Sustainability + Innovation = Growth

Our strategy combines market-leading innovation and sustainability, providing innovative solutions with superior sustainability profiles to drive growth. To support our Group strategy we have six shorter-term strategic priorities.

Fast grow Asia

By expanding our presence in Asia, we will be able to access high-growth markets that are developing at a faster pace with opportunities across Consumer Care and Life Sciences.

Proactive M&A

We look to acquire disruptive technologies and complementary bolt-on acquisitions that we can scale through organic investment in line with our 'buy and build' model. M&A is strategy-led with 'chief scouts' in Consumer Care and Life Sciences working to identify technologies of the future.

Scale biotechnology

Scaling biotechnology is enabling ingredients to be produced using techniques such as fermentation, significantly improving the sustainability profile of manufacturing processes and raw materials.

Doing the basics brilliantly

Our 'doing the basics brilliantly' programme drives continuous operational improvements, aimed at improving the customer experience and increasing employee productivity by leveraging digital technologies and streamlining processes.

Expand to grow Life Sciences

Our strategy in Life Sciences is to empower biologics delivery, enabling the shift to biological active ingredients in pharmaceutical and agricultural markets that will drive structural growth opportunities in the years to come. This move from chemically-synthesised to biological active ingredients is already underway in pharmaceutical markets but is in its earlier stages in agricultural markets. We aim to broaden our portfolio of pharma delivery systems and bioprocessing aids through organic investment, technology partnerships and selective bolt-on acquisitions that bring a unique capability to the Group.

→ See more on page 43

Strengthen to grow Consumer Care

In Consumer Care we aim to be the most sustainable and responsive supplier of innovative ingredients. We are strengthening the portfolio through continued innovation, developing claims-based ingredients with objective and verifiable performance data provided by our advanced validation techniques. The sustainability profile of our portfolio is a source of competitive advantage and we are further strengthening the portfolio by developing new ingredients with superior sustainability credentials, including bio-based, biodegradable and low-carbon products, with validated claims data.

→ See more on page 39

Progress on Group strategy

Sustainability

Strategic progress 2023

- Launched product-level carbon footprint (PCF) data covering scope 1, 2 and 3 emissions for around 1,300 ingredients
- Further reduced our GHG emissions, remaining on track to achieve our 1.5°C Science Based Target by 2030, with several manufacturing sites in Brazil, Denmark and France achieving close to carbon neutrality
- Saved more than 150,000 hectares of land through the use of our crop and seed technologies
- Received limited assurance for significant climate related data, strengthening the integrity of non-financial data

Priorities for 2024

- Meet interim 2024 milestones as part of our 2030 Commitment, including zero process waste to landfill, reducing our water impact and sustainable sourcing targets
- Review and refresh the sustainability strategy at the midpoint of the decade of action
- Conduct the first double materiality assessment of our business

Innovation

Strategic progress 2023

- Aligned R&D teams directly with Consumer Care and Life Sciences to ensure that our priorities are customer-driven
- Focused on 'big bet' projects harnessing the potential of biotechnology, alongside our traditional chemical technologies
- Expanded innovation infrastructure to support high growth in Asia, with new facilities in both China and India
- Continued to expand formulation academies to share our technical expertise with customers

Priorities for 2024

- Continue to strengthen innovation capability across core technology platforms including synthetic biology, biocatalysis and downstream processing
- Broaden ongoing activity within open innovation programmes to accelerate the discovery of new technology platforms and continue to drive collaboration with customers to deepen our technical relationships

Progress on strategic priorities

Fast grow Asia

- Opened new labs in Shanghai (China) and Hyderabad (India) for Consumer Care and Pharma, respectively, and committed to opening an applications lab for Nucleic Acid Delivery in Singapore in 2024
- Commenced construction of combined F&F/Beauty Actives manufacturing site in China and surfactants plant in India

Proactive M&A

- Acquired Solus Biotech, a global leader in premium, biotechnology-derived active ingredients
- Delivered first sales of naturally-derived ceramides and phospholipids from Solus Biotech

Expand Life Sciences

- Added biotechnology-derived squalene and QS-21 to the portfolio through licensing agreements, both of which are used as advanced vaccine adjuvants
- Progressed Pharma investment programme adding capacity to support future growth from nucleic acid-based therapies, due onstream in 2025

Scale biotechnology

- Launched several new IP-protected biotech-derived ingredients, including anti-ageing active ingredients
- Expanded our biotech capabilities in the UK, France and South Korea

Doing the basics brilliantly

- Adopted a new organisational structure which will reduce complexity and improve accountability and customer intimacy
- Saved hundreds of employee hours per month through the launch of an online ordering portal

Strengthen Consumer Care

- Increased the proportion of New and Protected Product sales by accelerating the differentiation of our portfolio
- Accelerating the transition to biotechnology, launching new ingredients derived from plant cell cultures, marine microorganisms and fermentation

Reasons to invest in Croda

Focused on operational delivery

Driving efficiency across the Group

We are 'controlling what we can control', optimising performance in a challenging market environment through short-term cost measures. This is alongside longer-term operational improvements such as our 'doing the basics brilliantly' programme, which is improving our processes and ways of working, benefitting the customer experience.

To find out more see page 29

An organisational structure that leverages our strengths

Our new organisational structure, introduced in January 2024, aligns the accountability for strategy and performance, creating greater ownership and improving agility and customer responsiveness.

To find out more see page 31

Continuing to invest in future growth

Despite short-term pressures, we continue to invest in future growth, matching our customers' appetite for innovation through targeted investment in R&D and manufacturing, with continued capital discipline.

To find out more see page 27

Focused on operational delivery

Driving Group efficiency

"There are further opportunities to drive efficiency savings by simplifying our business processes and driving improvements to the way we work that will deliver sustained benefits to our operational effectiveness over the longer term."

Louisa Burdett
Chief Financial Officer

Given the challenging trading conditions in 2023, we took some immediate actions to address costs, at the same time as driving incremental sales growth by increasing customer sales activity and using quieter time during 2023 to bring forward maintenance and focus on other capital projects. Prioritising customer-facing activities will help ensure we can take advantage of the demand recovery when it occurs.

Tight cost control measures were implemented from the second quarter of 2023 to maximise profitability. A refreshed operational dashboard was also introduced to provide up-to-date performance data to leaders. As we saw volumes reset downwards, we optimised production to match the lower demand through plant shutdowns, reduced shift patterns, and introducing more 'make to order' contracts with customers. This helped us avoid costs, with energy and freight costs falling through the year and second half costs 12% lower than the first half. Outside of production, our main focus was on budgeted cost avoidance such as restricting travel, curtailing headcount and other common-sense measures.

Annual salary increases were granted at the start of 2023 but a hiring freeze from Q2 onwards meant underlying employee headcount fell. In addition, a negligible charge for variable remuneration versus 2022 benefitted operating profit margin. A new organisational structure has been in place since the start of 2024, with all regional teams now reporting into Consumer Care and Life Sciences. This will ensure we deliver more effectively for our customers and should result in annual cost savings of £9m from 2025. A £5.4m exceptional restructuring charge was recognised in the 2023 accounts associated with the introduction of this simpler operating model and we expect a charge of low single-digit millions in 2024 as further benefits are realised. In addition, we regularly review our site footprint and closed a site at Cikarang in Indonesia which principally served industrial customers.

There are further opportunities to drive efficiency savings by simplifying our business processes and driving improvements to the way we work that will deliver sustained benefits to our operational effectiveness over the longer term. A number of workstreams are already underway under our 'doing the basics brilliantly' programme, including through the use of artificial intelligence, data analytics, an online ordering tool that is saving hundreds of employee hours, and a multi-year SAP upgrade.

We have actively managed our cash flow encouraging all employees to focus on generating cash, managing down our own inventories and collecting payments promptly. This delivered excellent results with improved free cash flow due to a working capital inflow and a significant reduction in inventory days which fell by around 20%. We expect our finished goods inventories to be back to pre-pandemic levels from a high point at the end of 2022 by the end of the first quarter of 2024, mitigating the risk that selling from stock (manufactured from higher cost raw materials) has a detrimental impact on profit margins. Enhanced by this improved free cash flow, our balance sheet remains strong with our debt leverage ratio within our target range of one to two times.

During the year we reviewed the pace of all in-flight capital expenditure projects, as well as every new proposal for non-safety-critical projects. This ensured that we maintained strong capital discipline whilst continuing to invest through the downturn in our refocused portfolio to drive profitable growth.

In addition to continued organic capital expenditure to support significant opportunities for growth across Consumer Care and Life Sciences, on 4 July 2023, we completed the acquisition of Solus Biotech from Solus Advanced Materials for a total consideration of £227.4m, funded from cash and debt facilities. This brings biotechnology-derived ingredients into our portfolio including ceramides and phospholipids.

With a track record of more than 30 years unbroken dividend progression, consistent distribution to shareholders is a key consideration for the Board. We have proposed a small increase in the full year dividend at 109p a share (2022: 108p).

A balanced approach to capital allocation

Our continued capital deployment was executed within our consistent capital allocation policy which is to:

1. Reinvest for growth – invest in organic capital expenditure to drive shareholder value creation through new capacity, product innovation and expansion in attractive geographic markets to drive sales and profit growth;
2. Provide regular returns to shareholders – pay a regular dividend to shareholders, representing 40 to 50% of adjusted earnings over the business cycle;
3. Acquire disruptive technologies – to supplement organic growth, we are targeting a number of exciting technology acquisitions in existing and adjacent markets, with a focus on strengthening Consumer Care and expanding in Life Sciences with a particular emphasis on Pharma technologies; and
4. Maintain an appropriate balance sheet – to meet future investment and trading requirements, targeting a leverage ratio of 1 to 2x over the medium-term cycle. We consider returning excess capital to shareholders when leverage falls below our target range and sufficient capital is available to meet our investment opportunities. The Board is keeping the Company's future capital requirements under close review.

Driving operational delivery in 2023

Our focus in 2023 has been on 'controlling what we can control' to protect profitability, alongside longer-term improvement programmes to drive efficiency savings by simplifying business processes and ways of working. This focus will ensure Croda is positioned to recover when the macro-environment improves.

Leveraging data analytics

Croda is exploring the use of data science and Artificial Intelligence (AI). By investing in data science capabilities, including visualisation tools, we have been able to protect existing revenue through targeted customer retention, improve the speed and accuracy of assessing the carbon footprints of our ingredients, and cut the time our scientists need to identify effective formulations for a range of products – from months to days.

20,000
Product Carbon Footprints can be calculated instantly following the introduction of advanced analytics

70%
We have used AI to successfully predict 70% of customers at risk of changing supplier

Cost measures to protect profitability

Several cost measures have been implemented since June 2023 to protect profitability. Actions include tighter budgetary control of fixed costs, optimising production through plant shutdowns and reduced shift patterns, at the same time as increasing sales activity to meet ongoing customer demand for innovation.

Refreshed operational performance dashboard

Our operational performance dashboard has been refreshed and made available as an App to provide a single source of performance data for Croda's senior leadership team.

Order intake
Volume and value of orders plus trends

Turnover rate
Employee turnover segmented by years of service and location

Capital expenditure
Monthly cumulative capex versus target

Controllable costs
Monthly controllable costs in constant currency

Working capital

Business at risk
Total weighted value of business at risk based on sales, CRM and delivery data

Receivables
Month-end receivables plus overdue percentage

Pipeline conversion
Leads converted into won opportunities

Profit before tax

Safety performance
Number of major incidents collated weekly

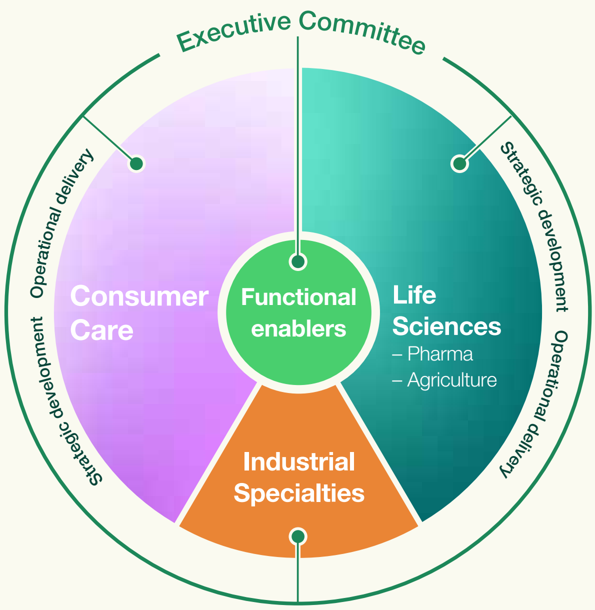
Revenue

'Doing the basics brilliantly' programme

We are seeking efficiency savings through improving business processes. Our 'doing the basics brilliantly' programme is improving our customer experience and employee productivity through a combination of customer insights, digital technologies and process improvements. This programme has driven efficiencies within our well-established customer-centric model including an online portal and more self-serve data for customers.

Simplifying our structure

A new organisational structure has been effective since the start of 2024 with all regional teams, including sales, R&D, marketing, customer service and manufacturing, reporting into Consumer Care and Life Sciences. This will ensure we deliver more quickly and more efficiently for our customers.



Reasons to invest in Croda

Delivering long-term performance

A long-term track record

Our successful business model has enabled us to pay a growing dividend for more than 30 years. Increasing shareholder returns have been delivered alongside strong non-financial performance.

→ To find out more see page 33

Consistent capital allocation in line with a clear policy

A clear capital allocation policy guides our investment decisions with a preference for organic capital investment, complemented by technology-led ‘bolt-on’ acquisitions, which has delivered attractive long-term growth.

→ To find out more see page 29

Retained a strong financial position despite market headwinds

Despite market headwinds and a weaker performance in 2023, our cash generative business model and disciplined approach mean we have retained a strong balance sheet and the headroom to invest.

→ To find out more see pages 47-50

Long-term financial and non-financial performance

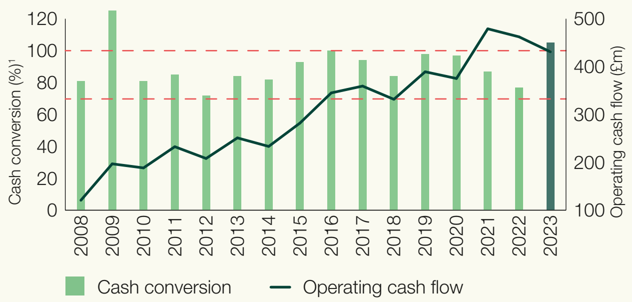
A proven track record

We have a long-term track record of delivering positive financial and non-financial performance for the benefit of all stakeholders.

Attractive financial characteristics

Highly cash generative

Operating cash flow and cash conversion

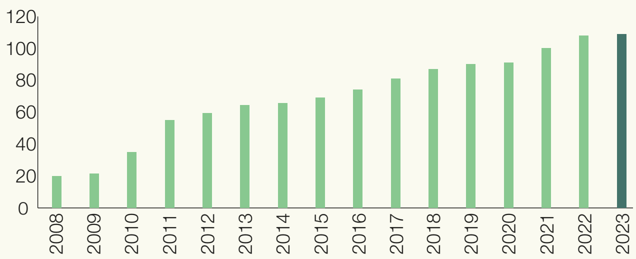


Over the past 15 years the Group has transformed from a specialty chemicals business focused predominantly on industrial markets to one serving consumer, agricultural, and pharmaceutical markets. As the scale of the Group and operating margins have expanded over time, profits have risen, with consistently strong conversion of profit into cash.

1. Cash conversion defined as operating cash flow (pre-interest and tax) divided by EBITDA.

A track record of dividend growth

Full year ordinary dividend per share (pence)

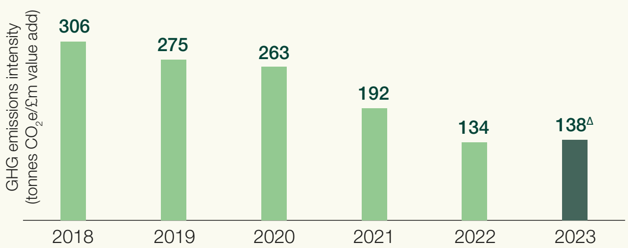


Strong compounding financial performance over many years, supported by a conservative capital allocation policy and powerful business model, has enabled us to pay a growing dividend for more than 30 years. Since 2008 the ordinary dividend has grown by an average of 12% a year. In 2023 the dividend was increased by 0.9% with robust cash flow and a conservative leverage position (net debt to EBITDA ratio of 1.3x) supporting continued growing returns to shareholders.

Delivering non-financial progress

Progressing to a carbon-light business model

Emissions intensity 2018-2023[1]



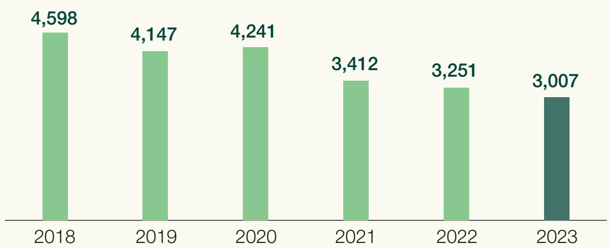
At the same time as delivering on our absolute Science Based Target aligned with the 1.5˚C pathway, we are decoupling value growth from our impact on climate.

Our emissions intensity measured relative to 'value added' shows significant continuous improvements since 2018. This aligns with our approach to growth, focusing on low-volume, high-value ingredients that add significant value in our customers' solutions.

1. For the definition of value added see page 64.

Reducing our water footprint

Total water withdrawal 2018-2023[2]



We have improved effective use of water in manufacturing our ingredients, reducing our total water volumes used by 35% since 2018. We have been prioritising efforts to reduce our water footprint over many years and in 2020 launched a holistic water impact metric. Focused on water use in our direct control, this builds on previous metrics to include location specific water issues (e.g. flood risk, water scarcity and quality) alongside volume. Our target is to reduce our water impact in the most stressed locations by 50% by 2030.

See page 15 of our Sustainability Impact Report.

2. Excludes PTIC businesses that were divested in 2022.

Δ indicates where metrics have been assured (limited assurance) under ISAE (UK) 3000 and ISAE 3410 by KPMG, our independent assurance provider and reflects the position for the year ending 31st December 2023. See www.croda.com/sustainability for details.

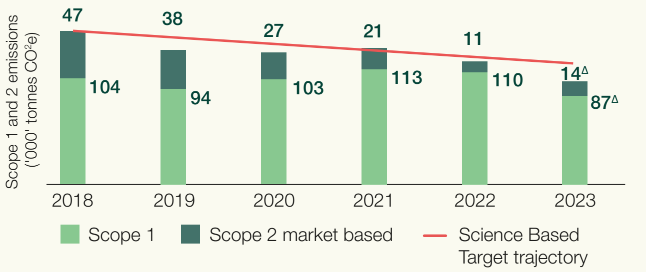
Key performance indicators

Delivering on our sustainability ambitions

We use smart science to create high performance ingredients and technologies that improve lives and aim to have positive global impacts on climate, nature and society over the long term.

Scope 1 and 2 GHG emissions

101,246 tonnes CO_2e



Definition
Our operational greenhouse gas (GHG) emissions (associated with burning fuels onsite and purchased electricity) in absolute terms.

Target
By 2030, we will have achieved our Science Based Target, reducing scope 1 and 2 emissions by 46.2% from our 2018 baseline.

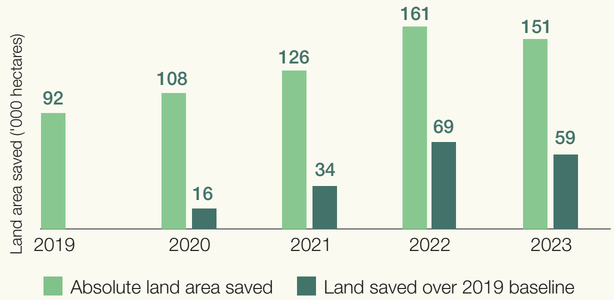
Performance
Since 2018, our baseline year, our total scope 1 and 2 GHG emissions have reduced by 33%. While our 2023 scope 1 and scope 2 emissions are tracking well below our Science Based Target, the challenging business environment and associated reduction in sales volumes in 2023 contributed to the lower emissions output. Although volumes are expected to recover, we remain confident in achieving our Science Based Target.

R

See pages 9-13 of our Sustainability Impact Report

Land area saved

151,038 hectares



Definition
Land area saved through the application of our crop protection and seed enhancement technologies, using 2019 as our baseline year.

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

Performance
In 2023, the use of our agricultural ingredients and new technologies saved 58,815 hectares of land versus our 2019 baseline of 92,223 hectares, translating to a total land saving of 151,038 hectares in 2023. We remain on track to hit our 2024 intermediate milestone of saving at least 80,000 hectares per year more than in 2019, and our 2030 target of saving 200,000 hectares per year more than in 2019.

R

See pages 14-18 of our Sustainability Impact Report

Progress on our Commitments in 2023

Climate Positive
As we continue to deliver on our Science Based Target (SBT) for GHG emissions reduction, we recognise the value to our customers of sharing product-level carbon footprint (PCF) data, to help their decision-making as they formulate. In 2023 we launched PCF data to our Consumer Care customers, covering scope 1, 2 and upstream scope 3 emissions with a methodology aligned to industry standards. The majority of our carbon footprint is emissions associated with the production of our raw materials. We are therefore fully engaged with suppliers, both directly and as members of the chemical industry consortium, Together for Sustainability (TfS), to gain greater clarity on emissions and started to receive primary scope 3 data from leading players in 2023. We also completed our first downstream scope 3 inventory analysis, which demonstrated the importance of understanding indirect consumer emissions throughout the full lifecycle of a product.

Land Positive
In addition to our land saved target we aim to bring an average of two crop technological breakthroughs to market each year until 2030. In 2023, we launched four products which protect biodiversity and mitigate the impact of changing climate and land degradation, bringing our total launched since 2020 to nine. Our use of raw materials derived from bio-based and other natural sources brings with it a responsibility to understand and address our dependencies on ecosystems and impacts on nature and biodiversity. In 2023 we were selected to join World Business Council for Sustainable Development's (WBCSD) Science Based Target for Nature Preparer Group, in line with our ambition to contribute to a Nature Positive world by 2030. In response to the first release of SBTs for Nature, which aim to refine understanding of our impacts on freshwater, as well as protecting and restoring terrestrial ecosystems, this small group of WBCSD members is working to help organisations develop their goals for nature.

Key

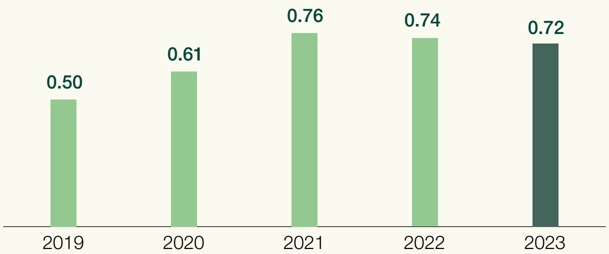
R Links to long-term incentive scheme (PSP)

B Links to annual bonus scheme

While the focus of our Sustainability Commitment is delivering positive impact, we also understand the value of external ratings to our stakeholders. We have received an AAA rating from MSCI, are in the top 1% of companies rated by EcoVadis and recently received an A- rating from CDP across all categories. We use the submission and feedback process as one mechanism to identify areas for improvement.

Total Recordable Injury Rate (TRIR)

0.72



Definition

The number of incidents per 200,000 hours worked where a person has sustained an injury, including all lost time, restricted work and medical treatment cases (excludes Covid-19 cases).

Target

Achieve TRIR of 0.3 by the end of 2024.

Performance

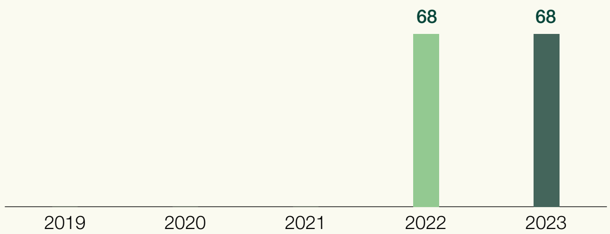
The headline TRIR decreased to 0.72 in 2023 (2022: 0.74). While a step in the right direction, this remains unacceptably high compared with our target and from the beginning of 2023 proactive safety leadership was embedded in our leadership development programme and became part of the Group annual bonus scheme for the first time. More than 4,500 hours of safety training was provided to over 500 of our most senior leaders across all functions and geographies to embed safety as a value.

B

→ See more about safety initiatives on page 17

Purpose and Sustainability Commitment (PSC) score

68%



Definition

The PSC score is a gauge of employee satisfaction measured through employee surveys and expressed as a percentage.

Target

Our target is to improve the PSC score by 8 percentage points against the 2022 baseline by 2026.

Performance

Participation in 2023 was just under 80% of total headcount across the year (consistent with 2022). The PSC score for 2023 was 68%, matching the score achieved in 2022 despite a tough trading environment and period of change for our employees. We have made progress in areas such as reward, recognition and safety, with questions in these areas seeing improvements across our sites. The survey results have helped identify areas of focus such as having manageable workloads and employees feeling they are able to develop at Croda.

R

→ See more on our culture on page 16

People Positive

Our People Positive Commitment impacts both our employees and wider society. In 2022, through the use of our solar protection ingredients, Croda delivered on its 2030 target to protect more than 60 million people from potentially developing skin cancer caused by harmful UV rays. In 2023 we progressed towards our target of contributing to the successful development and commercialisation of 25% of WHO-listed pipeline vaccines and have already achieved our 2024 milestone of 10 clinical phase III trials, two years ahead of schedule. We are continuing to work towards gender balance in our management. In 2023, we increased the number of women in senior positions to 39%$^{\Delta}$ (2022: 38%). The Croda Foundation was established in 2021 to help sustainably improve one million lives. In 2023, super-charged by additional funding accepted from Croda, it has sustainably improved the lives of over 22 million people, providing 34 grants across 21 countries.

Fundamentals

The Fundamentals element of our Commitment represents the social licence required for a multinational company such as Croda to operate in 2030. We consider all stakeholders in our ecosystem and strive to adopt best practices in environmental protection, labour and human rights, ethics and sustainable procurement. As we evolve our approach to delivering on our Commitment to become Climate, Land and People Positive by 2030, many of these Fundamental targets align closely with our strategies to reduce our negative impacts and increase our positive impacts on climate, nature and society.

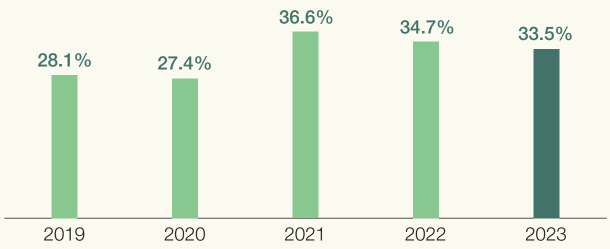
$^{\Delta}$ indicates where metrics have been assured (limited assurance) under ISAE (UK) 3000 and ISAE 3410 by KPMG, our independent assurance provider and reflects the position for the year ending 31st December 2023. See www.croda.com/sustainability for details.

Key performance indicators continued

Driving innovation

New and Protected Products sales (%)

33.5%



Definition

New and Protected Products (NPP) are sales protected by virtue of being newly launched, protected by intellectual property or by unique quality characteristics. Measuring the proportion of NPP sales relative to total sales at constant currency is our established KPI for innovation. Over time we are transitioning to measuring absolute growth in NPP sales. This transition simplifies our NPP metric but more importantly recognises the importance of our non-NPP sales, particularly sales of those products that do not meet our rigid NPP criteria but have superior sustainability profiles and are delivering strong growth on that basis.

Target

We seek to drive NPP sales growth at least as fast as total sales over the cycle, targeted at mid to high single-digit percentage growth.

Performance

The proportion of sales of NPP has grown over the long term from 20.5% in 2012 to reach 33.5% in 2023. The small reduction in NPP sales as a proportion of total sales in 2023 reflects a reduction in the sales of Covid-19 lipids. In the year, Group NPP sales fell by 4%, excluding the impact of Covid-19 lipid sales and the PTIC divestment, a less significant fall than for Group sales as a whole.

R

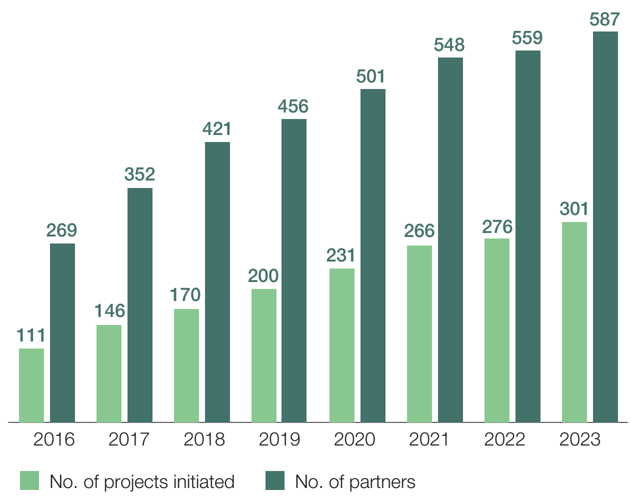
Delivering innovation in 2023

Our innovation capability comprises not just our own self-funded R&D programmes but also a growing network of innovation partners, including SMEs and academia. These innovation partners often have expertise in specialist fields such as biotechnology or pharma, and expand our innovation capacity to help accelerate key projects. We continued to grow our open innovation network in 2023 and by the end of the year had collaborated with more than 580 innovation partners on around 300 innovation projects since adopting this open innovation model.

Innovation efforts are focused on bringing differentiated solutions to customers and doing so in a way that has a positive downstream impact and can help customers achieve their sustainability ambitions, while ensuring we deliver progress against our own 2030 sustainability targets. We are focused on key platform technologies such as synthetic biology, biocatalysis and downstream processing and are also investing to scale biotechnology and expand sustainable chemistry.

Developing sustainable alternatives to existing ingredients remains a key focus of our innovation efforts and in 2023 new projects included a partnership aimed at developing bio-based and biodegradable polymers for liquid polymer solutions, which are often used in personal care and crop care applications for rheology modification. Another project is focused on using biotechnology to generate sustainable terpenes, key ingredients in flavours and fragrances which are typically produced by chemical synthesis of petrochemical-derived raw materials.

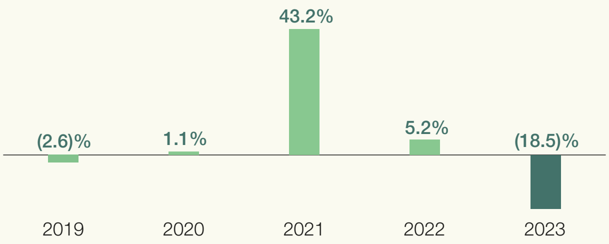
Open innovation partners and initiated projects



Converting opportunities for growth

Sales growth (constant currency)

(18.5)%



Definition

Total sales growth measured at constant currency.

Target

Mid-single digit percentage growth in Consumer Care and high-single digit percentage growth in Life Sciences.

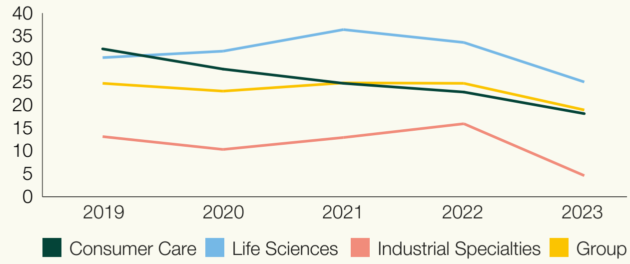
Performance

Sales in 2023 were down 18.5% at constant currency, with underlying sales down 19.1% and a small contribution of 0.6% from the acquisition of Solus Biotech, which completed in July 2023. Adjusting for the divestment of PTIC which completed in June 2022, pro forma sales were down 11%. This comprises positive price/mix growth of 5%, with volumes 16% lower, reflecting the challenging trading conditions in 2023.

B

Return on sales

18.9%



Definition

Adjusted operating profit as a percentage of sales.

Target

Return on sales over the medium term at or above 25% in Consumer Care and at or above 30% in Life Sciences, dependent on the mix of growth in each of the business units that comprise the two sectors.

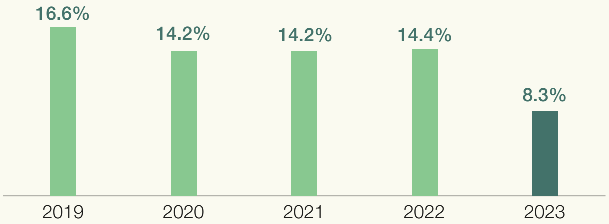
Performance

Group return on sales reduced to 18.9% in 2023 (2022: 24.7%). This reflects significant volume declines across multiple markets leading to low utilisation levels across our shared manufacturing sites and reduced overhead coverage, as well as a reduction in sales of high margin lipid systems for Covid-19 from around $120m in 2022 to approximately $60m.

B

Return on invested capital (ROIC)

8.3%



Definition

Adjusted operating profit after tax divided by the average adjusted invested capital. Adjusted invested capital represents net assets adjusted for net debt, earlier goodwill written off to reserves, accumulated amortisation of acquired intangible assets and the net pension asset/liability. Our ROIC metric was revised in 2023 to adjust for the net pension asset/liability and the historical ROIC numbers shown have been restated.

Target

ROIC of at least two times cost of capital.

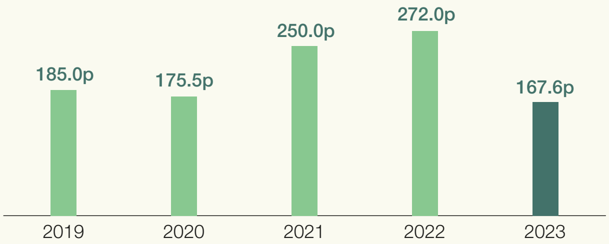
Performance

The post-tax ROIC reduced to 8.3% (2022: 14.4%) with lower operating profit, as well as growth in average invested capital reflecting continued investment in the year to support future growth in both Consumer Care and Life Sciences.

R

Adjusted basic earnings per share (EPS)

167.6p



Definition

Adjusted profit after tax attributable to owners of the parent divided by the average number of shares in issue during the year.

Target

At least mid-single digit percentage EPS growth per annum.

Performance

EPS fell to 167.6p (2022: 272.0p) as a result of the lower sales and operating profit margin. Net finance costs were lower in 2023, principally due to the proceeds from the PTIC divestment in June 2022, but the effective tax rate on adjusted profit was slightly higher at 23.9% (2022: 22.8%).

R

Sector review

Consumer Care

Our ambition is to be the world's most sustainable, innovative and responsive solution provider. Already recognised as a market-leading innovator, our strategy is to continue to strengthen Consumer Care in fast growth niches, by accelerating innovation, expanding our sustainable product portfolio and enhancing our customer intimacy.

Business units

Consumer Care SDG alignment:

Contributes to 19 targets across 11 of the 17 SDG goals

Number of customers in Consumer Care:

>6,100

customers, up from 4,300 in 2014

Presence in:

>120

countries, up from 54 in 2014

Beauty Actives

(c.15% of sector sales)

Beauty Actives operates in the highest premium part of the market, offering customers scientific expertise for unparalleled product efficacy. Croda is a market-leader with a large actives portfolio across two ranges: Sederma Actives for high efficacy skin actives derived from peptides and biotech; and Croda Botanicals for natural plant-based actives.

Fragrances and Flavours (F&F)

(c.30% of sector sales)

F&F is a preeminent emerging market provider, with global reach and innovative technologies that meet customer needs with agility and quality. This is delivered through two fragrance brands: Iberchem, differentiated by its customer intimacy and responsiveness; and Parfex, with its excellent reputation in prestige markets for fine and natural fragrances, as well as Scentium in Flavours. The strategy is to develop the business as a leader in sustainable fragrances, unlocking the potential of F&F through organic growth and driving synergies with Croda's technology and customer bases.

Beauty Care

(c.50% of sector sales)

Beauty Care delivers differentiated ingredients across skin, hair and solar care. The strategy is to strengthen Beauty Care through a focus on growth and agility in the target market segments, innovate in sustainable effect ingredients, deliver a full-service formulation capability for customers and differentiate our products through a rich data set which customers can leverage to meet their specific market needs.

Home Care

(c.5% of sector sales)

Home Care is focused on bringing Croda's ingredients to selective premium home care markets. This is delivered through two technology platforms which deliver improved efficacy and sustainability: fabric care, with biopolymers that increase the lifetime of clothes; and household care, with sustainable alternatives to fossil-based surfactants.

Market opportunities

Positively impacting everyday life

Croda is a global leader in speciality ingredients providing high-performance technologies behind the world's biggest brands. Long-term trends such as an ageing population are driving consumption, with increased penetration of consumer care products across all cultures of the world. Beauty, in particular, is becoming synonymous with wellbeing, confidence and self-esteem at every stage in life.

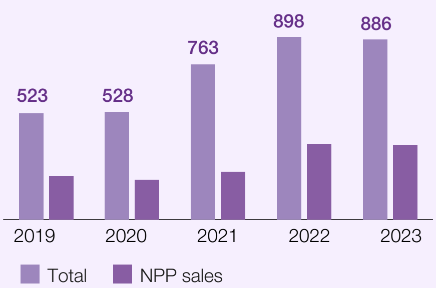
With growing economies and an expanding middle class, Asia and the Middle East represent significant growth opportunities. We are implementing our objective to achieve fast growth in Asia and are well placed to serve regional and indie customers whose importance is growing in the region.

Science and sustainability are driving consumers and our customers. Consumers are always on the look-out for improved performance and new trends, with Croda delivering new ideas with proven substantiated claims. Consumers also prefer products that are good for them and the planet, as well as highly effective. We are complementing our leading range of sustainable ingredients with assured information about their impacts and an R&D programme focused on delivering sustainability benefits in use to our customers.

Customers also want intimate relationships with key suppliers to reduce time to market so our ability to facilitate fast innovation is creating new opportunities. We supply key ingredients, with on-trend formulations, complemented by regulatory expertise to ensure that all-important element – speed.

Across consumer markets, we are focused on faster-growing niches which value our innovation, including anti-ageing, hair conditioners and mineral sunscreens. Our unrivalled portfolio is the foundation of our success and is constantly evolving, with more than 40,000 different product/customer combinations, and 40,000 fragrance references.

Consumer Care sales (£m)



Consumer Care vision

To be the world's most responsive, innovative and sustainable solutions provider in consumer care markets

Strategy to strengthen Consumer Care

Responsive
- Enhance customer intimacy
- Full formulation capability

Innovative
- Drive innovation in premium markets
- Scale biotechnology

Sustainable
- Develop more sustainable ingredients
- Support with science-based performance claims

Fast grow Asia

Strategy

Croda creates critical Consumer Care ingredients that are both sustainable and underpinned by performance. Our business model helps us to win; operating in over 120 countries, Croda supports customers large and small globally.

The Consumer Care strategy anticipates and responds to the megatrends influencing consumer behaviour and shaping our customers' needs. In an era defined by rapid global economic shifts and evolving consumer desires, our strategy positions us at the forefront of the market, ready to meet the demands of an increasingly discerning consumer base. Consumers will pay a premium for high-quality, innovative formulations and substantiated product claims. They also want to live their lives more sustainably and this is impacting their decisions when it comes to the products to buy.

Our ambition is to be the world's most sustainable, innovative and responsive solution provider. Already recognised as a market-leading innovator, our strategy is to continue to strengthen Consumer Care in fast growth niches, by accelerating innovation, expanding our sustainable product portfolio and enhancing our customer intimacy. Leadership requires us to deliver sustainable ingredients with the best performance and data to support customer claims. We will also lead in formulation science and application technologies.

Our innovation is improving the sustainability of our ingredients and finding high performance replacements for fossil-based products. We showcase our ingredients, educate customers on their use and develop finished formulations for customers, incorporating both our performance-based ingredients and emotion-driven fragrances and botanicals to deliver complete solutions. This is particularly attractive to smaller companies, who can partner with Croda to launch products to the market at pace.

With the personal care market in Asia developing rapidly, we have a 'fast grow' programme to expand our technical and sales presence. This is being supported by selective expansion in manufacturing and a focus on acquisition opportunities, targeting adjacent active technologies and natural ingredients. We have completed the acquisition of Solus BioTech, a global leader in premium, biotechnology-derived materials located in South Korea. With over 30 years of expertise in the development of naturally derived ceramides, the acquisition broadens Croda's offering of high performance, natural ingredients for luxury beauty customers in Asia and globally.

Sector review continued

Consumer Care continued

Consumer Care

Performance summary – leadership in innovation and sustainability driving demand

Consumer Care sales fell 1% to £886.1m (2022: £897.8m) with strong double-digit percentage sales growth in F&F but lower underlying sales in Beauty Actives, Beauty Care and Home Care. Price/mix was 2% mainly due to a positive mix impact from Beauty Actives, with pricing broadly flat. Sales volumes were down 4% year-on-year but were up 9% in the second half compared with the second half of 2022. Acquisitions added 1% due to sales of ceramides following the Solus Biotech acquisition, with foreign currency translation a small headwind particularly in the second half year.

IFRS operating profit was £127.8m (2022: £144.5m) and adjusted operating profit was £160.3m (2022: £204.7m), resulting in adjusted operating margin reducing to 18.1% (2022: 22.8%). Four and a half percentage points of the margin decline was due to the operating gearing effect of continued weak volumes in Consumer Care, compounded by lower volumes in Life Sciences and Industrial Specialties which share the same manufacturing assets. Two percentage points of the margin decline was due to weaker mix as a result of strong growth of lower margin F&F sales, with the negligible variable remuneration charge and provision release associated with an earn-out on the Iberchem acquisition providing a partial offset.

In Consumer Care, our leadership in sustainability and innovation continues to drive demand for Croda's differentiated ingredient portfolio. Sales of New and Protected Products (NPP) improved to 42% of total sales (2022: 41%) and sales of sustainable ingredients such as ECO surfactants and biotech-derived ingredients were stronger than other ingredients in our portfolio. We can now provide product-level carbon footprint data to our customers so that they can quantify the benefits associated with using around 1,300 of our ingredients in their products, supporting a structural shift in behaviour by customers and consumers towards sustainable ingredients. The focus of our work has been on Beauty Care where Product Carbon Footprints are now available for three quarters of our portfolio.

Sales to Asia exceeded sales to North America for the first time with significant potential for further growth, particularly for premium products driven by the increasing number of middle-class consumers. To maximise fast growth in Asia, we have prioritised investment in R&D, sales and production in China and India in particular where underlying sales grew 12% in 2023. While our performance in China has remained robust, owing to strong relationships with regional brands built on our innovation expertise, a broad-based recovery in Chinese consumer spending and travel would underpin improved global demand for consumer care products.

The stand-out performer in 2023 was **Fragrances and Flavours (F&F)** which delivered 18% underlying sales growth, benefitting from its distinctive positioning in fast-growing markets and agile, cost competitive model. F&F sales were up in all product categories and established regions, with the Middle East particularly strong. This excellent sales growth principally reflects F&F's high exposure to local and regional customers outside North America and Europe as well as sales synergies that are being realised under Croda's ownership. These include a new multi-million pound a year sales opportunity to supply fragrances to a multinational company in regions where F&F has local production. Projects are also underway to further increase the proportion of bio-based fragrance ingredients, to continue the move towards lower carbon and a more natural footprint. Approved R&D and manufacturing investment programmes are underway in China, Indonesia, France and Spain to continue the growth momentum.

In **Beauty Actives**, reported sales were up 4% but down 1% on an underlying basis (i.e. excluding the Solus Biotech acquisition). Positive mix helped offset weaker volumes as Sederma active ingredients grew, particularly in China, whereas sales of lower-value botanicals fell. The business supported new customer products with peptides for the new Boots No7 Future Renew range and for a new Deciem product that repairs scars caused by acne. Our ingredients are increasingly derived from biotechnology, both plant stem cells and fermentation, and we recently launched LuceaneTM, an anti-ageing active with its origins in marine biotechnology, and an active ingredient that fades age spots caused by the sun. Having completed the Solus Biotech acquisition in July 2023, we are excited about the opportunities that the addition of further fermentation-derived active ingredients to our portfolio are starting to open up, with strong customer demand already evident for ceramides. We will drive rapid sales growth of Solus ingredients by leveraging Croda's global selling network and formulation science expertise.

Performance remained weakest in **Beauty Care**, which has broad market exposure and is larger than the other business units, with sales down 11% driven by lower volumes. Our approach in Beauty Care is to manage sales volumes in the less differentiated parts of the portfolio to underpin consistent plant utilisation and cover fixed costs. We are also working to win back business in North America which we lost in 2022 through our inability to supply. In parallel, we are accelerating the differentiation of the Beauty Care portfolio by driving innovation, enhancing the sustainability profile of our ingredients, and transitioning our manufacturing processes to biotech and other low carbon technologies. Already a sustainability leader, the business is adding further high-performance replacements for fossil-based products, such as biotech-derived surfactants to reinforce a number one position in sustainable surfactants. In hair care, our focus is on biodegradable hair care ingredients and non-animal alternatives for hair conditioning. In sun protection, we specialise in mineral sunscreens that deliver superior SPF protection, are 'reef safe' and appear clear on the skin. The continued fragmentation of beauty care markets plays to our strengths as we partner with customers large and small enabling them to launch their products quickly. We are leveraging this position as go-to-market partner at our innovation centres globally where we offer to co-create customer products.

The recovery of sales volumes in **Home Care** accelerated as the year progressed, with underlying sales down 1% year-on-year but up 12% in the second half compared with the second half of 2022. Once again it was sales of two technology platforms that are differentiated by sustainability that led the way – bio-based ECO surfactants for household care and biopolymers which extend the life of fabrics. We also agreed a long-term contract with a key customer that underpins future sales of our biopolymer range.

Alongside investments that help deliver the carbon reduction roadmaps that we have put in place for all sites, Consumer Care investment is focused on Asia to support continued growth momentum. In China, we opened a new laboratory in Shanghai and started work on a £30m combined Beauty Actives and F&F manufacturing facility in Guangzhou to grow domestic sales. In India, we commenced construction of a new surfactants plant at a greenfield site in Dahej. The acquisition of Solus Biotech in South Korea has also given us another state-of-the-art plant in the region and strengthened our presence across Asia.

Growing our portfolio of premium beauty actives with the addition of naturally-derived ceramides

With the acquisition of Solus Biotech, which completed in July 2023, we added naturally-derived ceramides to our broad offering of premium beauty actives ingredients. Ceramides help form a protective layer, reinforcing the skin's natural barrier and improving hydration while reducing free radicals and protecting against damage from pollution. Although ceramides are naturally found in the skin, their concentration depletes with age, and they are increasingly recognised as a 'miracle' ingredient with the number of new personal care products containing ceramides doubling over the last five years. The acquisition not only broadens our beauty actives offering to include ceramides, but also expands our biotechnology capabilities and brings a new site in South Korea which will act as a springboard into premium markets in Asia.

Enabling customers to make purchasing decisions aligned to their environmental goals

In October 2023, we launched product carbon footprint (PCF) statements for around 1,300 of our Beauty Care ingredients, representing about three quarters of the revenue for our Beauty Care portfolio. The statement is a cradle-to-gate life cycle assessment that provides our customers with the total greenhouse gas emissions (GHG) associated with the ingredient, from sourcing the raw materials through to when the final product leaves our factory gates.

PCFs allow customers to make more informed purchasing decisions as they work towards their own decarbonisation plans. This means customers can assess the benefits of using Croda ingredients in terms of the GHG impact on their finished product.

For Croda, PCFs enable us to see our GHG emissions at a product level so we can understand where our product portfolio is successfully helping us meet our decarbonisation targets and opportunities to further reduce our impact. They will also help us prioritise the carbon claims of new ingredients as a source of competitive advantage.

The Croda proprietary tool automates the calculation of cradle-to-gate product carbon footprints and was created by a team comprising data scientists, mathematicians, and accountants as well as sustainability specialists.

Leveraging biotechnology to deliver advanced ingredients with improved sustainability profiles

Utilising biotechnology, including plant cell cultures and the fermentation of microorganisms, to create innovative ingredients is not new to Croda and is something we have been doing in our Beauty Actives business for more than 30 years. By enabling us to exploit the cellular and biomolecular processes of living organisms outside of animals, biotechnology makes it possible to produce alternatives to ingredients which are currently manufactured with synthetic chemistry using solvents, catalysts and in some cases hazardous materials. The use of biotechnology therefore offers the potential to develop innovative active ingredients, using natural ingredients with sustainable supply chains, while improving certain processes to deliver time savings and higher yields.

In 2023, we launched Luceane™, a patented active ingredient that counteracts hypoxia ageing by stimulating and protecting cell respiration and energy production, while also inducing micropollutant removal within cells. Studies have shown Luceane™ slows down the ageing process by five years after just one month of application, reducing signs of fatigue and improving skin radiance. Manufactured using the fermentation of marine microorganisms, Luceane™ is 100% natural, fully biodegradable, RSPO certified and uses sustainable manufacturing with complete waste recovery, demonstrating how our smart science can deliver advanced ingredients sustainably.

Sector review

Life Sciences

Our strategy is to expand Life Sciences to empower biologics delivery, enabling the move from small chemically synthesised molecules to large and complex biologics, a megatrend which is transforming the pharmaceutical market and which will transform agriculture.

Business units

Life Sciences SDG alignment:

Contributes to 18 targets across 9 of the 17 goals

Total number of Pharma customers:

>5,000

Partner to major crop science companies and a growing number of small and medium-sized customers

Agriculture

Crop Protection

(c.30% of sector sales)

Crop Protection has leading relationships with the major crop science companies, offering ingredients that improve performance and delivery of crop formulations. Our strategy is to deliver sustainable solutions using technology platforms and expertise in complex crop formulation systems, improving yields, accelerating the transition to biopesticides and contributing to food security.

Seed Enhancement

(c.15% of sector sales)

Seed Enhancement leverages our leadership in seed coating systems and enhancement technologies to improve germination, stimulate healthy development of seeds and increase crop yield. Our strategy is to be the leader in sustainable seed enhancement solutions for both field and vegetable crops.

Pharma

(c.55% of sector sales)

Pharma targets leadership in biologics drug delivery, delivering drug and vaccine systems through synthesis, system formulation and application technology know-how. Our innovation portfolio is designed to selectively support customers, large and small, who are driving emerging pharma technologies, and to unlock value from our technology strengths. Pharma comprises three technology platforms:

Protein/Small Molecule Delivery has an established record of providing delivery systems for complex protein drugs. These large, sensitive molecules are typically injected. Our differentiated range delivers the highest purity excipients to customers, including 'Big Pharma'. Our strategy is to support established small molecule drugs and develop excipients for complex protein and monoclonal antibody (mAb) applications, and expand our portfolio of high purity reagents for bioprocessing.

Adjuvant Systems is the most advanced third-party supplier of adjuvants (immune response boosters) for vaccines. There is a large, recognised need for innovation in vaccine adjuvant systems as a result of the development of novel therapeutic vaccines that cure diseases previously only treatable with symptomatic treatments. Croda is well-positioned with the broadest range of vaccine adjuvant systems and is embedded within vaccine pipelines across many indications.

Our strategy is to accelerate use of innovative adjuvant systems, comprising multiple building blocks, supporting WHO vaccine programmes and the development of future preventative and therapeutic vaccines.

Nucleic Acid Delivery was created after our 2020 acquisition of Avanti and enabled the world's first commercial lipid system for mRNA vaccines for Covid-19. Our innovation pipeline looks to improve lipid delivery systems and create new transfection agents for cell and gene therapy. We are included in a high proportion of the rich pipeline of nucleic acid drugs that are in development and due to commercialise from 2025.

In addition, our **Avanti Research** catalogue continues as a distinct strategic arm targeting early-stage R&D and academic relationships. This embeds our technologies in clinical development and, if successful, we position ourselves as the partner of choice for commercialisation.

Expanding Life Sciences

Market opportunities – Pharma

Pioneering the future of healthcare

In pharmaceutical markets, Croda focuses on providing systems that deliver Active Pharmaceutical Ingredients (APIs) to the target site in the body, maintain stability and improve efficacy.

We are pioneering the future of healthcare by focusing on segments with a high development need. Our key differentiator is innovation, creating new ingredients from sustainable sources with a unique quality.

For protein delivery we provide a range of speciality excipients for challenging formulations including injectables. In adjuvant systems, we are the only independent supplier with a full component portfolio and the ability to put those vaccine adjuvants together to power the therapeutic vaccines of the future. We are the leading innovator of components for nucleic acid delivery, capable of both developing new systems and scaling them up to support commercial roll out.

In total we have over 5,000 customers across the whole pharmaceutical lifecycle. Our approach is to develop delivery systems for candidate drugs in early-stage research, generating revenue from providing materials during clinical development and then as the principal supplier of the delivery system if the drug is commercialised. Our broad base means we are exposed to a wide range of customers, drugs and applications.

Market opportunities – Agriculture

Innovating for global food security

The agriculture industry is at a pivotal moment, facing the dual imperatives of delivering higher yields to feed a growing population and reducing chemical use as required by tighter regulation. Through our deep understanding of plant science, we can contribute to increasing food production without the need to use more land, thereby helping to improve global food security.

We are helping address the challenges with conventional pesticides by developing low carbon, biodegradable delivery systems to enable sustainable formulations and promote soil health. Our drift reduction technologies target crop spraying and are a key enabler of new farming practices such as drone application. We are also first to market with microplastic-free seed coatings many years before regulatory change and are enhancing seeds so that they germinate in the more challenging conditions created by climate change.

Whilst the market for biopesticides is much smaller than the market for conventional pesticides, it is growing much faster, presenting the opportunity for agriculture to have a much lower impact on biodiversity. We are creating solutions for a more sustainable future by developing delivery systems for biopesticides in which the active ingredients are microorganisms rather than chemicals and even nucleic acids that target a specific pest or inactivate a disease.

Life Sciences vision

To empower biologics delivery

Strategy to expand Life Sciences

Pharma

- Focus on delivery systems with high development needs
- Transition from ingredients supplier to systems provider

Agriculture

- Reinforce leadership in sustainable delivery systems
- Enable the transition to biopesticides

Invest in innovation pipeline, knowledge and capacity

Strategy

In Life Sciences, Croda focuses on providing delivery systems for active pharmaceutical and crop ingredients. Our technologies deliver the active, improve its efficacy and solve challenges of stability and sustainability in customer formulations.

Our global footprint gives us presence in the major crop regions and access to leading pharma R&D. Our strength in North America and Western Europe is now leveraged through expansion in Asia and Latin America. Working as an innovation partner to the major crop science companies, we have also expanded with medium and smaller-sized customers, especially local customers in Latin America, India and China. Our acquisition of research-focused Avanti in 2020 expanded our pharma customer base to span drug discovery and clinical trial stages, alongside our established commercialisation business. These relationships extend beyond global brands to academia, start-ups and biotech, where significant breakthrough discovery happens.

Our strategy is to expand Life Sciences to empower biologics delivery, enabling the move from small chemically synthesised molecules to large and complex biologics, a megatrend which is transforming the pharmaceutical market and which will transform agriculture. In Pharma, we focus on segments with the strongest growth and highest innovation needs, leveraging our delivery systems and technology platforms to create new solutions for customers. In our Agriculture business, we are reinforcing our leadership with sustainable solutions and leveraging our expertise to accelerate the transition to biopesticides, which will enable greater targeting of actives and reduced biodiversity impact.

To deliver this strategy, we are investing in innovation, knowledge and capacity. Our R&D investment is creating an extensive innovation pipeline. We are increasing our knowledge base in innovation, sales and manufacturing, co-investing with national governments who recognise the importance of biologics in the 21st century. We are supplementing organic growth with acquisition of new technology platforms, building on the successful growth of our vaccine adjuvant platform, acquired in 2018 and already doubled in sales, and our lipid systems platform, acquired in 2020, the first to deliver a commercial Covid-19 mRNA delivery system and widely utilised within the fast-evolving gene editing market.

Sector review continued

Life Sciences continued

Life Sciences

Performance summary – continued progress building industry-leading positions in high-growth markets

Life Sciences sales were down 12% to £602.3m (2022: £682.3m), with approximately seven percentage points of the reduction due to lower sales of lipid systems for Covid-19 vaccine applications. On a reported basis, positive price/mix of 3% partly offset a 15% decline in volume, the majority of which was due to destocking by Crop Protection customers with a small effect from similar trends in consumer health. There was also a contribution from phospholipid sales following completion of the Solus Biotech acquisition in July 2023 and a small foreign currency headwind. Sales of New and Protected Products (NPP) as a percentage of total sector sales fell to 29% (2022: 42%) or by one percentage point to 31% (2022: 32%) excluding the impact from Covid-19 lipid sales.

IFRS operating profit was £131.7m (2022: £220.3m) and adjusted operating profit was £150.3m (2022: £229.4m), resulting in an adjusted operating margin of 25.0% (2022: 33.6%). Six percentage points of the margin reduction was the result of adverse price/mix mainly due to lower Covid lipid sales, and four percentage points was the result of the negative operating leverage effect of lower volumes mainly in Crop Protection, partly offset by the benefit from a negligible variable remuneration charge. Shipments of c.$60m of lipid systems to our principal Covid vaccine customers occurred as planned at the end of the year benefitting second half operating profit margin.

Crop Protection is meeting the 'innovation gap' created by regulatory pressure to reduce pesticide use by developing sustainable crop care solutions as well as delivery systems for crop biologics that are enabling customers to transition to biopesticides. We recently launched our first delivery system specially designed for biopesticides, which has secured sales in all regions, and a new product that meets the growing demand for drone application particularly in Asia. Following an exceptional 2022, when Crop Protection delivered both strong double-digit percentage volume growth and price/mix, the business started the year with good momentum, but began to experience rapid customer destocking in the second quarter, with Q2 volumes down more than 30% compared with Q1. Volume weakness continued throughout the second half year, to fall 21% year-on-year with a small offset from positive price/mix, resulting in sales falling 19% overall. An end to destocking in Crop Protection markets would be an important driver of improved Life Sciences performance in the near term but the timing of this inflection point is uncertain as destocking started later than in other markets, and customer concentration is higher, so demand can be determined by the buying decisions of four or five major customers. In addition, agriculture markets are seasonal, so a lack of demand can mean that a whole season is missed, but conversely when a recovery comes it is likely to have a more immediate effect.

In **Seed Enhancement**, a significant proportion of sales are derived from providing just-in-time enhancement services for vegetable seeds. As such, the business only sees a limited impact from stocking cycles and delivered a 9% sales increase, driven by strong structural growth trends. Seed Enhancement is winning market share through its leadership in microplastic-free seed coatings which are in high demand globally following the European Union's recent adoption of measures that will ban the use of microplastics in agriculture in the next five years. Historically, the market for field crop seeds experiences changes in demand later in the cycle, so the market environment could be tougher in 2024, but for Croda, this risk is mitigated by our focus on vegetable seeds, our sustainability leadership and the incremental opportunities that are being created by regulation change.

Pharma continued to make good progress with its industry-leading position in biologics drug delivery as well as recent partnerships and new product launches further strengthening the pipeline of opportunities. Pharma sales fell 11% but grew 3% on an underlying basis excluding lipid sales for Covid-19 vaccine applications. The period also saw the first sales of phospholipids for drug delivery and intravenous nutrition following the completion of the Solus Biotech acquisition in July 2023. Whilst we were not immune from the challenges impacting the market, including customers reducing inventory levels, Covid normalisation and funding constraints for early-stage biotech companies, the breadth and diversification of our pharma portfolio enabled the business to deliver a resilient performance. Destocking primarily affected our heritage, consumer health ingredients for over-the-counter medicines, with lower Covid-19 demand adversely impacting Adjuvant Systems sales as well as lipids for Covid-19 mRNA vaccines. These challenges appear to be temporary rather than structural, but their effects could continue into 2024. By contrast, drug delivery technologies for Small Molecule, Protein and Nucleic Acid applications continued to grow.

Over the longer term, accelerating growth and margins will be driven by the commercialisation of new biologic drugs, many of which we are supporting during clinical trials, augmented by incremental revenue from our own innovation pipeline.

Protein/Small Molecule Delivery provides delivery systems for both the more mature small molecule drugs and the higher growth protein and monoclonal antibody (mAb) applications. Through the Solus Biotech acquisition, we have added naturally derived phospholipids to our portfolio which can be used as delivery systems for protein and small molecule actives, and for intravenous nutrition. In line with our strategy, we also expanded into bioprocessing aids, a target adjacency, launching Virodex as an aid for biopharma manufacturing and a superior alternative to a competitor product that is now banned in Europe. The first sales of Virodex were secured within three months of launch.

Adjuvant Systems is the leading independent supplier of adjuvants which are used as immune response boosters in both commercialised vaccines and those in development. It will benefit from two new adjuvant partnerships agreed during the year with Amyris and BSI. One of these is a sustainable squalene adjuvant that is produced by fermentation and is free from shark-derived material that forms the basis of competing adjuvants, and is already being qualified by three major vaccine companies. We have also expanded our adjuvants portfolio through new launches from our own innovation pipeline including PHAD, a new proprietary lipid-based adjuvant already sampled into over 20 vaccine projects.

The growth of **Nucleic Acid Delivery** will be driven by the commercialisation of new nucleic acid drugs with the number in development continuing to grow, and Croda supporting the majority of those that specify a lipid delivery system. Clinical trials of nucleic acid-based drugs have increased rapidly over the last 12 months as pharma industry pipelines continue to grow. The strong medium-term growth trajectory for our Nucleic Acid Delivery platform is likely to be realised in three phases: firstly, mRNA vaccines for infectious diseases which are expected to come to the market from 2025, where we are working closely with the Big Pharma companies driving this development; secondly, oncology applications which require more targeted delivery systems; and thirdly, gene editing therapies such as a CRISPR treatment for sickle cell anaemia which we are supporting and was recently approved by the US FDA.

During the year, we opened an applications centre in 'Genome Valley', Hyderabad, India to support growing demand for protein and small molecule delivery. With our Pharma business a top priority for capital allocation, we also opened an adjuvant systems lab in Denmark and are due to expand our R&D capabilities for nucleic acid delivery at Alabaster in the USA and in Singapore in 2024. We are investing an extra £175m over the period 2021 to 2024 to scale up Pharma production, particularly to meet forecast market demand for new nucleic acid drugs which are widely expected to come to the market from 2025, with the US and UK Governments co-investing up to an additional £75m combined. We have invested over £110m in the programme to date.

Helping to prevent and treat life-threatening diseases with our drug delivery systems

Adjuvants are used in vaccines to enhance the immunogenicity of antigens, inducing a stronger immune response and improving the efficacy of the vaccine. We are a leading supplier of aluminium and saponin-based adjuvants, used in traditional preventative vaccines, with a growing portfolio of advanced adjuvant systems for use in next generation vaccines. This means we can positively contribute to the growing demand for health and wellbeing. We are making progress towards our target of contributing to the development of at least 25% of vaccines identified as priorities by the World Health Organisation and are also providing adjuvant systems for new therapeutic vaccines such as a personalised vaccine for patients with melanoma.

In 2023 we signed two partnership agreements for the supply of biotechnology-derived Squalene and QS-21 adjuvants. With Squalene commonly sourced from shark liver and QS-21 produced by harvesting the bark of mature soap trees in Chile, these agreements ensure we will positively contribute to both patient health and biodiversity by establishing sustainable supply chains.

Improving agricultural output without negatively impacting nature

The application of coatings makes seeds easier to sow and the inclusion of micronutrients and plant protection products improves the overall performance of seeds while reducing the need for crops to be sprayed after planting. As such, seed treatment has a positive environmental impact, but many seed coatings contain polymer-based binding agents, leaving microplastics in the soil when the seed coatings break down.

Croda has addressed this issue, becoming the first company to develop high-performing microplastic-free seed coatings for use on both vegetable and field crop seeds. The European Union has adopted legislation which bans the use of microplastics in agriculture within the next five years resulting in increasing demand for microplastic-free coatings which have already been applied to seeds covering several million acres. With soil health becoming ever more important, we expect to deliver incremental growth with microplastic-free seed coatings not just in Europe, but in other regions such as Latin America too.

Sector review

Industrial Specialties

Industrial Specialties plays a critical role in our business contributing to overall asset utilisation and therefore profitability.

Contributing to the efficiency of our manufacturing assets

With the divestment of the majority of Croda's Performance Technologies and Industrial Chemicals (PTIC) business on 30 June 2022, the retained industrials business, including the SIPO joint venture in China, became Industrial Specialties (IS). IS leverages investments in Consumer Care and Life Sciences, our core sectors, and plays a critical role in our manufacturing site model. This includes contributing sales volumes to our shared production assets and thereby enhancing overall asset utilisation, cost absorption, and ultimately profitability, as well as monetising co-streams so that we maximise the value of all our products. The business is regionally led, to enable flexible optimisation of manufacturing capacity matched against local demand, with global leadership from an Executive Committee member. It also operates a medium-term supply contract to Cargill, the new owner of the divested business.

The 2022 comparator year comprised the full PTIC business in the first half year and the retained business in the second half year. It is estimated that, had the divestment occurred at the start of 2022, sales in 2022 would have been £191m lower at £318m and 2022 adjusted operating profit would have been £39m lower at £42m. On this pro forma basis, sales fell 35% to £206.1m principally due to lower volumes, reflecting destocking and weak industrial demand globally. The effect of weak demand was similar on both sales direct from Croda and to Cargill as part of the supply agreement and limited the ability of IS to help optimise site utilisation. Pro forma adjusted operating profit fell 78% to £9.4m as negative operating leverage compounded the impact of lower volumes. The impact of these adverse market conditions on the SIPO joint venture in China resulted in a goodwill impairment charge of £20.8m taken at the 30 June 2023 balance sheet date. Including the impairment charge, the reported IFRS loss was £12.0m (2022: £79.9m profit), with the prior period including the full contribution from the divested business.

Finance review

Louisa Burdett
Chief Financial Officer

Focused on profit protection and active cash management

A weak macroeconomic environment and customer destocking had a significant effect on Croda's financial performance in 2023 with sales down 11% and adjusted operating profit down 33% both on a pro forma basis. Given the challenging trading conditions, we took some immediate actions to address costs alongside driving improvements to the way that we work that will deliver sustained benefits over the long term. We actively managed our cash flow, resulting in a significant reduction in working capital and inventory days, and our balance sheet remains strong, enabling us to continue to invest through the downturn to drive future growth.

Currency translation

The US Dollar and the Euro together represent approximately 65% of the Group's currency translation exposure. Sterling was broadly flat against the US Dollar at an average for the year of US$1.243 (2022: US$1.237) and weakened slightly against the Euro to €1.149 (2022: €1.174) on a similar basis. The impact of changes in exchange rates for other smaller currencies, which represent 35% of the exposure, was more significant. Overall, the negative impact from currency translation was £9.1m on sales and £10.3m on adjusted operating profit. The disproportionate impact on adjusted operating profit reflected a £6m adverse effect from the application of IAS 29 ('Financial Reporting in Hyperinflationary Economies') to reporting in Argentina and Turkey, and a £2m foreign exchange loss from the devaluation of the Argentine peso, with the balance from the net effect of other currency movements. The transactional impact of foreign currency exchange was not material.

Impact of PTIC divestment

The Group successfully completed the divestment of the majority of the Performance Technologies and Industrial Chemicals (PTIC) business on 30 June 2022, with the retained industrials business, including the SIPO joint venture in China, becoming Industrial Specialties (IS). Given the divested business did not meet the requirements for classification as a discontinued operation, the first half of 2022 included the full PTIC business and the second half year only the retained business. It is estimated that, had the divestment occurred at the start of 2022, sales in 2022 would have been approximately £191m lower at £318m and 2022 adjusted operating profit would have been approximately £39m lower at £42m. Pro forma 2022 results have been adjusted for the divestment. On this basis, IS sales fell 35% to £206.1m and adjusted operating profit fell 78% to £9.4m.

Sales

Sales	**2023 £m**	Price/mix	Volume	Acquisition	Currency	Change	2022 £m
Consumer Care	**886.1**	1.9%	(3.6)%	1.0%	(0.6)%	(1.3)%	897.8
Life Sciences	**602.3**	3.2%	(15.4)%	0.7%	(0.2)%	(11.7)%	682.3
Industrial Specialties	**206.1**	(3.9)%	(55.1)%	0.0%	(0.5)%	(59.5)%	509.2
Group	**1,694.5**	10.9%	(30.0)%	0.6%	(0.4)%	(18.9)%	2,089.3
Estimated pro forma sales							
Group	**1,695**	11%	(30)%	1%	(1)%	(19)%	2,089
Pro forma adjustment							(191)
Group (pro forma)	**1,695**	5%	(16)%	1%	(1)%	(11)%	1,898

Reported sales were down 18.9% to £1,694.5m (2022: £2,089.3m). On a pro forma basis they were down 11%. Within this, price/mix improved by 5%, supported by positive mix in Consumer Care and weaker IS sales. Group volumes reduced by 16% pro forma, with a weaker macroeconomic environment and continued customer destocking across consumer, crop and industrial markets having a significant impact. While sales volumes remain significantly lower than 2022, they are slowly improving in Consumer Care and were 9% higher in the second half of 2023 than they were in the second half of 2022. Sales of ceramides and phospholipids contributed 1% following completion of the Solus Biotech acquisition in July, with a 1% headwind from currency translation mainly due to movements in smaller currencies to which the Group has less exposure.

Finance review continued

Profit and margin

	2023			2022		
	IFRS £m	**Adjustments £m**	**Adjusted £m**	IFRS £m	Adjustments £m	Adjusted £m
Sales	**1,694.5**	**–**	**1,694.5**	2,089.3	–	2.089.3
Cost of sales	**(964.5)**	**–**	**(964.5)**	(1,103.7)	–	(1,103.7)
Gross profit	**730.0**	**–**	**730.0**	985.6	–	985.6
Operating costs	**(482.5)**	**(72.5)**	**(410.0)**	(540.9)	(70.4)	(470.5)
Operating profit	**247.5**	**(72.5)**	**320.0**	444.7	(70.4)	515.1
Gain on business disposal	**–**	**–**	**–**	356.0	356.0	–
Net interest charge	**(11.2)**	**–**	**(11.2)**	(20.7)	(1.7)	(19.0)
Profit before tax	**236.3**	**(72.5)**	**308.8**	780.0	283.9	496.1
Tax	**(64.2)**	**9.5**	**(73.7)**	(126.7)	(13.8)	(112.9)
Profit after tax	**172.1**	**(63.0)**	**235.1**	653.3	270.1	383.2

	2023			2022		
Operating profit	**IFRS £m**	**Adjustments £m**	**Adjusted £m**	IFRS £m	Adjustments £m	Adjusted £m
Consumer Care	**127.8**	**(32.5)**	**160.3**	144.5	(60.2)	204.7
Life Sciences	**131.7**	**(18.6)**	**150.3**	220.3	(9.1)	229.4
Industrial Specialties	**(12.0)**	**(21.4)**	**9.4**	79.9	(1.1)	81.0
Group	**247.5**	**(72.5)**	**320.0**	444.7	(70.4)	515.1

Cost of sales benefitted from a 12% reduction in raw material costs in 2023, with freight and energy costs also reducing as we progressed through the year. In addition, underlying employee costs were broadly flat as a hiring freeze and natural attrition offset inflation-based salary increases.

Significant volume declines across most of our markets at a similar time led to low levels of capacity utilisation at our manufacturing sites, with negative operating leverage impacting profit margins. IFRS operating profit was £247.5m (2022: £444.7m) and profit before tax £236.3m (2022: £780.0m), the prior period having included the gain on the PTIC divestment of £356.0m. IFRS profit before tax included a charge for adjusting items of £72.5m (2022: £72.1m charge excluding the gain on business disposal), comprising a goodwill impairment of £20.8m to the carrying value of the Chinese SIPO joint venture in Industrial Specialties, a charge for amortisation of acquired intangible assets of £36.7m (2022: £34.3m), acquisition costs of £9.6m (2022: £nil) and restructuring costs associated with changes to the Group's operating model of £5.4m (2022: £nil). Prior year adjusting items included a gain on contingent consideration on a previous acquisition of £6.1m and an impairment charge of £42.2m, reflecting a £34.6m write-down of goodwill in the Flavours cash generating unit and a £7.6m write-off of unusable manufacturing equipment in Japan. The adjusting charge within net interest related to unwind of the discount on contingent consideration of £1.7m.

Adjustments excluding gain on business disposal	**2023 £m**	2022 £m
Business acquisition costs	**(9.6)**	–
Restructuring costs	**(5.4)**	–
Impairments	**(20.8)**	(42.2)
Fair value movement on contingent consideration	**–**	6.1
Unwind of discount on contingent consideration (net interest)	**–**	(1.7)
Amortisation of intangible assets arising on acquisition	**(36.7)**	(34.3)
Total adjustments	**(72.5)**	(72.1)

	Full year ended 31 December					
Adjusted profit	**2023 £m**	Underlying growth £m	Acquisition impact £m	Currency impact £m	2022 £m	Change
Consumer Care	**160.3**	(41.3)	0.4	(3.5)	204.7	(21.7)%
Life Sciences	**150.3**	(73.9)	0.0	(5.2)	229.4	(34.5)%
Industrial Specialties	**9.4**	(70.0)	0.0	(1.6)	81.0	(88.4)%
Operating profit	**320.0**	(185.2)	0.4	(10.3)	515.1	(37.9)%
Net interest	**(11.2)**	–	–	–	(19.0)	(41.1)%
Profit before tax	**308.8**	–	–	–	496.1	(37.8)%

Estimated pro forma profit	**2023 £m**	2022 £m	Change
Adjusted operating profit	**320**	515	(38)%
Pro forma adjustment	**–**	(39)	
Adjusted operating profit (pro forma)	**320**	476	(33)%
Net interest	**(11)**	(13)	15%
Adjusted profit before tax (pro forma)	**309**	463	(33)%

Group adjusted operating profit reduced by 33% on a pro forma basis to £320.0m (2022 pf: £476m), with an adjusted operating margin of 18.9% (2022 pf: 25%). With a large reduction in sales volumes, the biggest impact on margin was operating leverage, with reduced fixed overhead coverage accounting for a reduction in operating margin of around five percentage points. Adverse mix, principally lower Covid-19 lipid sales, also had an impact, reducing operating margin by around three percentage points.

There were a number of non-trading impacts that benefitted the adjusted operating margin by a total of approximately two percentage points. The most significant of these was a one and a half percentage point benefit from a negligible variable remuneration charge due to the impact of a lower share price on share scheme costs and because the annual bonus for 2023 was not triggered. Consumer Care also benefitted from the release of an accrual for an earn out associated with the Iberchem acquisition. Following the PTIC divestment, associated dis-synergy costs that were previously allocated to the divested business have been reallocated across the Consumer Care and Life Sciences sectors. This benefitted Industrial Specialties but reduced the operating margin in Consumer Care and Life Sciences by approximately half a percentage point each.

Whilst there are likely to be some bounce-back costs in 2024 as trading normalises, including a higher charge for variable remuneration and higher employee costs, there are also opportunities for margin expansion from higher sales volumes and improved mix, particularly if volume recovery is broad-based across all markets. There will also be benefits from our simplified operating model.

Net finance costs were £11.2m (2022: £19.0m), with receipt of £665.0m proceeds from the PTIC divestment on 30 June 2022 and payment of the £227.4m consideration for Solus Biotech on 4 July 2023 being the main drivers of changes over recent periods, as well as higher interest rates. Net finance costs are expected to be £15-20m in 2024. Adjusted profit before tax was £308.8m (2022 pf: £463m). The effective tax rate on adjusted profit was 23.9% (2022: 22.8%) and the effective tax rate on IFRS profit was 27.2% (2022: 16.2%). The 2023 IFRS tax rate was higher than the effective tax rate on adjusted profit as the exceptional costs were mainly capital in nature and therefore not tax deductible. The prior year IFRS tax rate was lower than the effective tax rate on adjusted profit having benefitted from corporate tax exemptions available on the PTIC divestment. Releases of prior year tax provisions benefitted the Group's adjusted effective tax rate by approximately two percentage points, otherwise there were no significant adjustments between the Group's expected and reported adjusted tax charge based on its accounting profit. IFRS basic earnings per share (EPS) were 122.5p (2022: 465.8p) and adjusted basic EPS were 167.6p (2022: 272.0p).

Improving free cash flow

As a result of active cash management during 2023, free cash flow improved to £165.5m (2022 restated: £157.4m), with a working capital inflow of £29.1m (2022: £133.8m outflow). The working capital inflow was principally driven by lower inventory with stock days falling by approximately 20%. The improvement in working capital was despite the impact on receivables of approximately $60m of lipid sales shipped to our principal Covid-19 vaccine customers during the final quarter.

Net capital expenditure was £170.1m (2022: £138.5m), driving future growth opportunities and supported by government funding grants in the Pharma business.

	Full year ended 31 December	
Cash flow	**2023 £m**	2022 (restated) £m
Adjusted operating profit	**320.0**	515.1
Depreciation and amortisation	**89.5**	86.4
EBITDA	**409.5**	601.5
Working capital	**29.1**	(133.8)
Interest & tax paid	**(93.5)**	(154.0)
Non-cash pension expense	**(4.4)**	4.5
Share-based payments	**(4.2)**	(11.0)
Other cash movements	**1.0**	1.0
Net cash generated from operating activities	**337.5**	308.2
Net capital expenditure	**(170.1)**	(138.5)
Interest received	**8.3**	5.1
Payment of lease liabilities	**(17.0)**	(17.4)
Exceptional items cash outflow add back	**6.8**	–
Free cash flow	**165.5**	157.4
Dividends	**(150.7)**	(144.4)
Acquisitions	**(241.8)**	(21.2)
Business disposal net of cash in disposed business	**(4.6)**	579.0
Exceptional items: cash outflow	**(7.9)**	(1.0)
Other cash movements	**(10.3)**	(7.5)
Net cash flow	**(249.8)**	562.3
Net movement in borrowings	**125.1**	(381.8)
Net movement in cash and cash equivalents	**(124.7)**	180.5

Closing net debt was £537.6m (2022: £295.2m), including payment of the £227.4m consideration for the Solus Biotech acquisition that was funded from cash and debt facilities. The balance sheet remains strong with a leverage ratio of 1.3x EBITDA (2022: 0.5x), within our 1-2x target range. As at 31 December 2023, the Group had committed funding in place of £1,050.0m, with undrawn committed facilities of £381.2m and £172.5m in cash. We received the most favourable rate of interest on our sustainable banking facility as our emissions reductions met the specified targets.

Retirement benefits

The post-tax asset on retirement benefit plans at 31 December 2023, measured on an accounting valuation basis under IAS 19, was £64.9m (2022: £75.2m). Cash funding of the various plans is driven by the schemes' ongoing actuarial valuations. The Trustee and Company are working on the 30 September 2023 triennial actuarial valuation for the largest pension plan, the UK Croda Pension Scheme. Initial results shared with the Company show that the funding position has improved and that the cost of providing benefits has fallen.

Alternative Performance Measures (APMs):

We use a number of APMs to assist in presenting information in this report. We use such measures consistently at the half year and full year, and reconcile them as appropriate. Whilst the Board believes the APMs used provide a meaningful basis upon which to analyse the Group's financial performance and position, which is helpful to the reader, it notes that APMs have certain limitations, including the exclusion of significant recurring items, and may not be directly comparable with similarly titled measures presented by other companies.

The measures used in this statement include:

- Constant currency results: these reflect current year performance for existing business translated at the prior year's average exchange rates. Constant currency results are the primary measure used by management to monitor the performance of overseas business units, since they remove the impact of currency translation into Sterling, the Group's reporting currency, over which those overseas units have no control. Constant currency results are similarly useful to shareholders in understanding the performance of the Group excluding the impact of movements in currency translation over which the Group has no control. The definition of constant currency profit has been revised in the year to reflect the impact on the Group of its operations in hyperinflationary countries. Constant currency results are reconciled to reported results in the review of financial performance below. The APMs are calculated as follows:

    a. For constant currency profit, translation is performed using the entity reporting currency before the application of IAS 29 hyperinflation and any associated one-off foreign exchange gains or losses;
    b. For constant currency sales, local currency sales are translated into the most relevant functional currency of the destination country of sale (for example, sales in Latin America are primarily made in US Dollars, which is therefore used as the functional currency). Sales in functional currency are then translated into Sterling using the prior year's average rates for the corresponding period;

- Underlying results: these reflect constant currency values adjusted to exclude acquisitions in the first year of impact. They are used by management to measure the performance of each sector before the benefit of acquisitions are included, in order to assess the organic performance of the sector, thereby providing a consistent basis on which to make year-on-year comparison. They are seen as similarly useful to shareholders in assessing the performance of the business. Underlying results are reconciled to reported results in the Finance Review;
- Pro forma results: these reflect the current year performance measured against 2022 adjusted for the estimated impact of the divestment of the majority of Performance Technologies and Industrial Chemicals on 30 June 2022. Given the divested business did not meet the requirements for classification as a discontinued operation, the first half of 2022 included the full PTIC business and the second half year only included the retained business. The Board believes that the pro forma information assists shareholders by providing a meaningful basis upon which to analyse business performance and make year-on-year comparisons. Pro forma analysis is used by management for budgeting and reporting purposes including the internal assessment of operating performance across the Group. In the first half of 2022, it is estimated that the divested operations contributed revenue of £191m, adjusted operating profit of £39m and adjusted profit before tax of £33m. Pro forma results are presented on a rounded basis due to the estimated nature of the measures. The level of estimation risk in arriving at the pro forma numbers is not considered material for the Group. Pro forma adjustments only impact Industrial Specialties and the Group, with no changes to Consumer Care or Life Sciences;
- Adjusted results: these are stated before exceptional items (as disclosed in the review of financial performance below) and amortisation of intangible assets arising on acquisition, and tax thereon. The Board believes that the adjusted presentation (and the columnar format adopted for the Group income statement) assists shareholders by providing a meaningful basis upon which to analyse business performance and make year-on-year comparisons. The same measures are used by management for planning, budgeting and reporting purposes and for the internal assessment of operating performance across the Group. The adjusted presentation is adopted on a consistent basis for each half year and full year results;
- Operating margin or return on sales: this is adjusted operating profit divided by sales, at reported currency. Management uses the measure to assess the profitability of each sector and the Group, as part of its drive to grow profit by more than sales value, in turn by more than sales volume, as set out in the Chief Executive's Review;
- Return on invested capital (ROIC): this is adjusted operating profit after tax divided by the average adjusted invested capital. Adjusted invested capital represents net assets adjusted for net debt, net retirement benefit assets/(liabilities), earlier goodwill written off to reserves and accumulated amortisation of acquired intangible assets. The definition of ROIC has been revised in the year to exclude the Group's net retirement benefit balances from invested capital, given they are not operating in nature. Comparative information has been restated to reflect the new definition, resulting in restated ROIC of 14.4% for 2022 (previously 14.1%). Calculations and reconciliations are provided in the five year record of the Group's Annual Report. The Board believes that ROIC is a key measure of efficient capital allocation, in line with its policy set, with its aim being to maintain a ROIC of at least two times the cost of capital over the cycle, and that it is useful to shareholders in assessing the superior returns delivered by the Group and the impact of deploying more capital to grow future returns faster;
- Net debt: comprises cash and cash equivalents (including bank overdrafts), current and non-current borrowings and lease liabilities. Management uses this measure to monitor debt funding levels and compliance with the Group's funding covenants which also use this measure. It believes that net debt is a helpful additional measure for shareholders in assessing the risk to equity holders and the capacity to invest more capital in the business;
- Leverage ratio: this is the ratio of net debt to Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA) adjusted to include EBITDA from acquisitions or disposals in the last 12 month period. EBITDA is adjusted operating profit plus depreciation and amortisation. Calculations and reconciliations are provided in the five year record of the Group's Annual Report. The Board monitors the leverage ratio against the Group's debt funding covenants and overall appetite for funding risk, in approving capital expenditure and acquisitions. It believes that the APM is a helpful additional measure for shareholders in assessing the risk to equity holders and the capacity to invest more capital in the business;
- Free cash flow: comprises net cash generated from operating activities adjusted for the cash effect of exceptional items less net capital expenditure and payment of lease liabilities, plus interest received. The definition of free cash flow has been revised in the year to better align with the most directly reconcilable line in the Group's IFRS cash flow statement. Comparative information has been restated to reflect the new definition resulting in restated free cash flow of £157.4m for 2022 (previously £167.4m). The Board uses free cash flow to monitor the Group's overall cash generation capability, to assess the ability of the Company to pay dividends and to finance future expansion, and, as such, it believes this is useful to shareholders in their assessment of the Group's performance;
- New and Protected Products (NPP): these are products which are protected by virtue of being either newly launched, protected by intellectual property or by unique quality characteristics. NPP is used by management to measure and assess the level of innovation across the Group.

Managing risks

Risk strategy

Effective risk management enables the business to protect and create value, helping us to identify opportunities and minimise threats to the delivery of our strategy and to build resilience within our business model.

Risk governance

Our Board owns and oversees our risk management programme, with overall responsibility for ensuring that our risks are aligned with our goals and strategic objectives. The Audit Committee assists the Board in monitoring the effectiveness of our risk management and internal control policies, procedures and systems.

Risk monitoring

Global visibility of risks identified by regions, sites and sectors is obtained through bottom-up risk registers that are continuously updated in our risk and control system. Using our global risk management framework (page 52), bottom-up risks are combined with top-down risks, the latter being identified and owned by a member of the Executive Committee, in our Executive Risk Register.

Movements to the Executive Risk Register are reviewed by the Risk Committee during quarterly meetings, which also has standing agenda items to review and monitor internal and external emerging risks; IT and cyber risks; internal audit; and safety, health, environmental and quality (SHEQ) assurance. The Committee also provides the Board with visibility of the principal risks facing the organisation through quarterly reports.

Risk management

While our Board owns and oversees our risk management programme, risk management accountability is embedded throughout our organisation:

- Our first line of defence, our employees, have a responsibility to manage day-to-day risk in their own areas guided by Group policies, procedures, control frameworks and risk appetite. Local management, and ultimately the Executive, ensure that risks are managed and actioned according to these frameworks
- The second line of defence is provided by management team review of each risk register, culminating in review by the Risk Committee
- The third line of defence is through assurance over the effectiveness of mitigating controls, which is provided through internal audits, supplemented by reports from external assurance providers
- Our Global Crisis Management Plan, which is in place to manage significant risk events, is owned by the Executive Committee
- Croda's Group Fraud Policy, Group Code of Conduct, Group Code of Ethics and Group Whistleblowing Policy in addition to our controls framework are in place to prevent and detect fraud. Annually the Audit Committee reviews the adequacy and effectiveness of Company's anti-fraud procedures. See case studies on page 53 for more details on what we have done in 2023 to enhance our fraud risk management
- The process for managing climate related risks is fully embedded as part of our global risk management process (more details on climate related risks are provided on pages 59 to 69).

Risk appetite

Our risk appetite is the level of risk that Croda is willing to accept in the pursuit of a specific objective or strategy.

We define a risk appetite score for each risk subcategory, using a one ('risk averse') to six ('risk open') scale. For example, the risk subcategory for SHE sits at the lower end of the scale, meaning that we are not willing to accept risks of this nature and these must be reduced to a level as low as reasonably practical. At the other end of the scale sits the subcategory for innovation, an area where we are willing to accept risks to seize significant opportunities. Assessing risks against our risk appetite allows us to review and challenge the level of risk that we are taking for each of our key risks, to identify areas where additional controls may be needed, or where the level of control may be too onerous.

Our risk appetite statements are compiled based on our Company values, strategy and capacity to absorb risk.

We use our risk appetite statements as an effective tool to communicate the Company's appetite towards each type of risk, providing a consistent guidance for decision-making throughout the organisation.

Emerging risks

We consider emerging risks and opportunities as part of our risk landscape and define them as those whose effects have not yet been substantially realised and whose evolution is highly uncertain.

The Risk Committee reviews emerging risks and opportunities from internal and external sources at its quarterly meetings and considers whether they should be included in our risk register.

Emerging risks can be slow moving, when they have potential to materialise in more than a year, as well as rapid velocity, those that may materialise within the next year. The later are closely monitored and actively managed (see Artificial Intelligence case study on page 53).

Our risk framework

What we monitor

Executive Risk Register
Summary of the principal risks facing us prepared by combining risks identified through the local bottom-up registers with top-down risks identified and owned by the Executive Committee.

Our risk landscape

Current risks
Risks we are managing now that could stop us achieving our strategic objectives.

Emerging risks
Risks with a future impact from external or internal opportunities or threats. These can be slow moving as well as rapid velocity.

What we assess
- **Risk ownership:** each risk has a named owner
- **Likelihood and impact:** globally applied 6x6 scoring scale
- **Gross risk:** before mitigating controls
- **Mitigating controls:** subject to internal audit review and monitoring
- **Net risk:** after mitigating controls are applied
- **Risk appetite:** defined at risk subcategory level
- **Actions:** identify further mitigation if required

Risk categories we assess
Six categories, 17 subcategories, over 60 generic risks, one framework:

- Strategic
- People and culture
- Process
- External environment
- Business systems and security
- Financial

Our bottom-up registers
The core of our risk assessment. Owned by market sectors, regions, manufacturing sites and functions, they identify local risks and mitigating controls arising from day-to-day operations globally.

How we monitor

Board
- Responsible for the risk framework and definition of risk appetite
- Reviews key risks with an opportunity for in-depth discussion of specific key risks and mitigating controls annually
- Approves the viability statement

Audit Committee
- Reviews the effectiveness of the Group risk management process
- Reviews assurance over mitigating controls, directing internal audit to undertake assurance reviews for selected key risks
- Reviews viability scenario assessments

Risk Committee
Chaired by Chief Financial Officer
- Meets quarterly to monitor and review risks (other than SHEQ, ethics and sustainability, which are delegated to other committees)
- Standing agenda items to monitor emerging risks, IT systems and cyber risks
- Receives an in-depth presentation of specific key risks and mitigating controls from risk owners
- Considers the results of internal audit work

Sustainability Committee
Chaired by Chief Sustainability Officer
- Meets quarterly to oversee the development, measurement and delivery of our sustainability strategy and the significance of climate related risks and opportunities
- Monitors against stretching targets and agreed KPIs

SHEQ Steering Committee
Chaired by President of Operations
- Meets quarterly to review SHEQ risks
- Monitors against stretching targets and agreed KPIs
- Considers the results of assurance audits over SHEQ controls

Ethics Committee
Chaired by Group General Counsel
- Meets quarterly to review ethics and compliance risks
- Monitors against agreed KPIs
- Considers the results of assurance audits over ethics controls

Principal risks

We consider principal risks to be those risks, or combination of risks, that, were they to arise and not be effectively mitigated, would cause serious disruption to our business model, threatening future performance, solvency, liquidity or our ability to deliver our strategy. Risks at this level are recorded in our Executive Risk Register with a high pre-control score.

The Group's principal risks, as reported in the financial statements for the year ended 31 December 2022, were revenue generation; product and technology innovation and protection; digital technology innovation; delivering sustainable solutions – Climate and Land Positive; management of business change; our people – culture, wellbeing, talent development and retention; product quality; loss of significant manufacturing site; ethics and compliance; and security of business information and networks. During our periodic risk reviews, we confirmed that all principal risks reported in 2022 remain relevant and no new principal risks were identified. The following principal risks were identified as heightened relative to 2022:

- Revenue generation risk increased during 2023 as the risk of continuous escalation of geopolitical conflicts may exert further downward force on demand, consequently impacting revenue. Despite a difficult year with significant revenue and profit reductions, Croda's business model has remained resilient as evidenced by strong cash generation.
- Security of business information and networks risk also heightened in likelihood during 2023 because of evolving technologies and increasingly sophisticated malicious activities worldwide.

Focus on fraud risk management

Croda has a strong governance and reporting structure, set within a culture that reinforces 'doing the right thing' and embeds counter fraud behaviours throughout the organisation. It is Croda policy that we will not tolerate fraud. A culture of honesty, propriety and vigilance, which includes individuals at all levels, is fundamental to managing fraud prevention and detection. In 2023 the following changes were made to strengthen our risk management framework and enhance our ability to identify and mitigate fraud risks:

- a new risk subcategory 'Fraud' was added to our framework under the risk category 'External Environment'
- a risk appetite scored 'Risk Averse' was associated with this new subcategory (see details of our risk appetite scoring scale on page 51)
- an associated risk appetite statement was crafted to reinforce stringent risk management practices throughout the organisation

Following these changes to our risk management framework, comprehensive bottom-up risk reviews with focus on fraud were performed at regions, sites, and functions. This diligent and holistic approach allows us to proactively identify vulnerabilities and implement targeted measures against fraud from the ground up.

Emerging risk of Artificial Intelligence

The mass use of Generative Artificial Intelligence, intertwined with AI's transformative potential, presents a significant emerging risk, demanding close monitoring and proactive management. At Croda, we acknowledge Artificial Intelligence as both an emerging risk and opportunity.

Understanding the substantial impact of AI on business growth and operational efficiency, we are committed to deploying AI in a controlled, risk-conscious manner. This approach aims to uncover efficiency gains and unlock new business capabilities while mitigating associated risks.

To steer this journey responsibly and sustainably, Croda has instituted a multidisciplinary AI Steering Committee which is overseen by the Executive Committee. Its primary goal is to provide strategic guidance, ensuring the ethical, effective, and responsible implementation of AI technologies across the Company. By prioritising maximal value generation while minimising risks, the Committee aims to foster our values of 'Responsible', 'Innovative' and 'Together' (see details on our values on page 16).

Strategic

Principal risks

Key

Link to our strategy (page 26)

- Sustainability
- Innovation
- Growth

Risk movement

- Risk increase
- No change
- Risk decrease

Link to our business model (page 14)

- GN Global needs
- PD Problem discovery
- SD Solution development
- IM Ingredient manufacture
- CS Commercial supply
- GI Global impact

1. Revenue generation

PD CS

Risk owner
Business Presidents

Why this matters to us

Our ambition is to deliver consistent top and bottom-line growth, with profit growing ahead of sales, ahead of volume. To grow, we need to innovate and also keep pace with our customers as they serve consumers globally in established markets and higher-risk developing markets. Failure to manage these challenges and the consequences of geopolitical tensions will adversely impact delivery of our growth objective. Acquisitions of adjacent technologies will dilute growth if they are not effectively integrated.

How we respond

Through our global sector sales, marketing and technology teams, we identify consumer trends and respond swiftly to satisfy customer needs through key technologies.

Our direct selling model enhances customer intimacy (see our competitive advantages – customer intimacy on page 13 for details).

Our resilient business model and focus on controlling costs, managing cash flow and increasing sales activity helps to mitigate the impact of difficult trading conditions (see our competitive advantages – our approach to growth on page 13 for details).

What we have done in 2023

- Focused on our 'doing the basics brilliantly' programme which aims to improve the customer experience and employee productivity
- Reorganisation designed to simplify and enable faster decision-making and localised customer response
- Progressed well with construction of new manufacturing site in Dahej, India, which will add capacity in fast-growth markets
- Broke ground on new site in China for fragrances and botanicals that will bring production closer to customer
- Expanded our R&D footprint in fast-growth countries such as new Pharma lab in Hyderabad, India

2. Product and technology innovation and protection

PD SD

Risk owner
Business Presidents

Why this matters to us

Innovation is the lifeblood of our business. It plays a critical role across our operations; it differentiates us from the competition, protects sales and improves our margins. Failure to leverage our global innovation teams could lead to a reduction in New and Protected Products (NPP) impacting growth and margin.

Failure to protect our intellectual property (IP) in these products in existing and new markets could undermine our competitive advantage.

How we respond

Our technical research and development (R&D) teams, based in our customer innovation centres and application laboratories globally, focus innovation on customer and market needs and are embedded across our business (see value creation, from discovery to supply – problem discovery on page 14 for details).

We invest in: R&D, Open Innovation and Smart Partnership programmes, developing premium niches and disruptive technology acquisitions (see value creation, from discovery to supply – solution development on page 14 for details).

Our specialist IP team protects new products and technologies, defending our IP and challenging third-party IP where appropriate (see our competitive advantages – innovation leadership on page 13 for details).

What we have done in 2023

- Invested in our biotech capabilities enhancing the necessary skills and expertise to drive innovation in a strategic technology area
- Obtained further external funding to support projects such as novel sustainable fragrance molecules, which can be considered transformational for Croda in our long-term innovation focus
- Maintained strong NPP revenues demonstrating our commitment to the commercialisation of our investment in R&D
- Enhanced the performance of our high throughput screening capabilities, which has supported the accelerated development of a number of candidate solutions focused on developing customer needs

Principal risks

3. Digital technology innovation

PD SD IM CS

Risk owner
Chief Financial Officer

Why this matters to us

Digital technology is a significant disruptor, rapidly changing markets that we operate in, changing the way we interact with our external partners and each other. New and established customers expect a high level of online service, from researching ingredients to procurement, and failure to meet these needs ahead of competitors will impact growth, hinder R&D knowledge sharing and create inefficient processes.

How we respond

Our digital specialist teams focus on what our business needs (see page 13 for details) and provide global leadership to take advantage of the fast-evolving digital world. They deliver an integrated market-facing environment that encompasses our entire value creation business model (see page 14 for details).

Digital pilot projects embedded in the organisation support agile, local trials of innovative ideas, which can grow into global roll outs.

What we have done in 2023

- Successfully delivered the second phase of our digital platform for knowledge management in R&D
- Programme to improve supply chain transparency included solution to improve forecast accuracy with the use of AI, implementation of barcoding and warehouse management system and pilot for long-term production planning
- Continued with the roll out of customer self-serve ordering portal.
- Developed digital marketing roadmap defining 2024 focus areas

4. Delivering sustainable solutions – Climate, Land and People Positive

GN IM GI

Risk owner
Group General Counsel

Why this matters to us

We have made a bold Commitment to be Climate, Land and People Positive by 2030, aligning our smart science with United Nations Sustainable Development Goals (SDGs). We are committed to delivering improvements in line with the objective to limit global temperature rises to no more than 1.5°C above pre-industrial levels. Climate change, biodiversity loss and rising inequality are changing consumer and other end-user demands, making sustainability leadership a key differentiator for our customers.

Failure to remain ahead of our competitors and to deliver on our stretching 2030 targets will damage our reputation as a sustainability leader and compromise growth.

How we respond

The Executive-level Sustainability Committee, which meets quarterly and is chaired by our Chief Sustainability Officer, monitors progress and allocates the necessary resources to meet our targets, with accountability embedded across the organisation. The central Sustainability team provides subject matter expertise, assists in measuring and reporting internally and leads our external reporting and assurance of non-financial data.

We see more opportunity than risk in climate change.

See our competitive advantages – sustainability leadership on page 13, and our value creation – ingredient manufacture and global impact on page 14 for details.

What we have done in 2023

- Launched ‘live’ product-level carbon footprint data for around 1,300 of our ingredients, to enable our customers to make decisions that will help meet their climate targets
- Created a Board-level Sustainability Oversight Committee to increase the capacity and competence of the Board to govern our sustainability approach
- Through our membership of WBCSD, joined a SBT for Nature Preparers group, to develop a more mature approach to minimise negative impacts of our activities on nature and support our customers’ targets
- Continued to include sustainability targets into our senior-level long-term incentives and annual bonus scheme

5. Management of business change

GN PD SD IM CS GI

Risk owner
Group Chief Executive

Why this matters to us

Delivery of our strategy requires significant business change globally, including acquisition of businesses and investment in our capital expenditure programme which is taking place in an environment of cost inflation and interruptions to availability of materials. Such transformational change has the potential to distract the organisation, resulting in failure to deliver expected results, or at worst destroy value.

Ineffective management of change could result in a failure to integrate new acquisitions effectively and impact the realisation of expected benefits.

How we respond

We have refocused our portfolio, so our capabilities address consumer and our customer needs (see value creation, from discovery to supply – global needs on page 14 for details).

The Board and Executive have oversight of the strategic change programme and receive regular updates on status and progress.

Skilled programme managers, supported by external consultants, lead our delivery of change programmes and our Capital Project Director monitors and oversees the capital investment programme.

What we have done in 2023

- Developed an integration toolkit which was successfully used for the integration of Solus Biotech
- Ran leadership development programmes with focus on change management
- Responded to employee feedback on the complexity of the organisation by announcing new organisational structure launching in 2024, which will simplify the organisation and help create a high-performing inclusive culture, which will enhance customer responsiveness. Our new structure announcement was meticulously planned and carefully delivered to ensure we mitigate associated risks

People and culture

Process

Principal risks

6. Our people – culture, wellbeing, talent development and retention

GN PD SD IM CS GI

Risk owner
President Human Resources

7. Product quality

IM

Risk owner
President Operations

8. Loss of significant manufacturing site (major safety or environmental incident)

IM

Risk owner
President Operations

Why this matters to us

Retaining and developing the experience and motivation of all our knowledgeable and diverse employees is critical to maintaining our ability to deliver our strategic priorities. Failing to maintain our distinctive Croda culture within which people thrive and which attracts new and diverse talent to join the Company would significantly damage our ability to innovate.

We sell into a number of highly regulated applications and the transition to a focused Consumer Care and Life Sciences business increases our exposure to this environment. Weak product quality control leading to non-compliance with our customers' stringent product quality requirements and global and local regulation could expose us to liability claims, significant reputational damage and compromise our ability to deliver growth.

We rely on the continued sustainable operation of our manufacturing sites around the world, including newly acquired sites.

Climate change directly impacting the location of a site or availability of utilities used, or a major event causing loss of production and violating safety, health or environmental regulations, could limit our operations. This could also expose the Group to liability, cost and reputational damage, especially in light of our commitment to sustainability and customer service.

How we respond

A clear Purpose, strong development culture, excellent learning opportunities and competitive reward programmes support the retention, engagement and career development of the high-quality teams we need (see our competitive advantages – 'One Croda' culture on page 13 for details).

Global graduate and management development programmes include stretching and high-profile assignments and provide a pipeline of internal talent.

Our bi-annual global talent review process considers resources and succession plans for critical roles, with actions monitored by the Executive Committee and the Board.

Monitored by our Group SHEQ Steering Committee, our sites and products are certified to demanding external quality standards highly valued by our customers (including ISO 9001, GMP and Excipact). Our global network of quality professionals enforces compliance with the Group Quality manual, assured through internal audits delivered by our specialist Group Quality audit team and external certification audits. We work proactively with relevant trade associations to shape future regulation.

Monitored by our Group SHEQ Steering Committee, our global network of site-based safety professionals enforces compliance with global policies and procedures defined in the Group SHE manual. Assurance is provided by the specialist Group SHE internal audit team, whilst external auditors certify our compliance with international safety standards. Our sites are certified to ISO 14001 standards.

Risks specific to each site are identified in 'bottom-up' risk registers, including climate adaptation risks which are monitored by Group Sustainability and overseen by the Sustainability Committee (see details on how we manage climate-related risks on page 61). Additionally, local emergency response plans are in place which are regularly tested.

What we have done in 2023

- Continued work with our Living Wage partners, in process of gaining accreditation
- Improved use of data to further understand turnover in the organisation, including reporting on attrition rates with an ability to identify attrition trends faster and the introduction of new exit interview questions to gain a greater understanding as to why individuals leave the organisation
- Reviewed bonus levels for senior employees
- Mapped psychometric tests to Croda competencies to help contextualise and visualise our culture when assessing and recruiting new talent to the organisation
- Re-launched Graduate Development Programme in all regions, with a new focus on recruiting niche skills, diversity and inclusion and a modernised training programme

- Independent confirmation that Life Sciences manufacturing sites are operating to the correct standards
- Our progress to the 2030 target of 99.5% right first time in manufacturing is on target
- Increased the use of our maturity assessment audits which will enhance the effectiveness of our quality management systems
- Completed a Group-wide hazard assessment to focus the governance and application of the Group Quality Policy

- Introducing biofuel steam-raising boilers on several sites displacing natural gas
- Introducing continuous processes with improved safety profiles in several plant areas
- Process risk peer review programmes have been completed across all relevant sites at the end of 2023
- Several sites are reaching higher process safety maturity and using leading metrics to drive down risk
- Senior leadership team commitment to improving SHE performance continues with over 500 senior leaders in the Group undertaking 'Safety as a Value' training

External environment

Principal risks

9. Ethics and compliance

GN PD SD IM CS GI

Risk owner
Group General Counsel

Why this matters to us

At Croda, compliance is at the heart of everything we do. We strive to conduct our business in accordance with all applicable laws and regulations, including UK ethics legislation which has extra territorial scope, competition laws, data privacy laws, tax laws and human rights legislation.

Our continued growth into higher-risk markets and the introduction of new regulation create an elevated compliance and reputational risk.

How we respond

Our Group Ethics Committee has responsibility for the development, reinforcement, oversight and cascade of the Group's ethics strategy and programme, Code of Conduct and other policies and procedures. The Ethics Committee meets quarterly to consider new legislation, review the effectiveness of current processes (including monitoring annual training programmes) and promote the importance of ethics and compliance across our business and amongst key stakeholders.

Our Audit Committee reviews the effectiveness of the Group's compliance procedures on an annual basis.

What we have done in 2023

- Appointed a Global Compliance Director and a Compliance Manager for further refining and improving the ethics programme
- Focused on designing and developing a human rights programme
- Continued with the ethics integration of newly acquired companies. This year we integrated Solus Biotech into our ethics programme
- Developed training materials to strengthen our ethics and compliance programme including training videos and leaflets in several languages
- Reviewed and updated our whistleblowing procedures to respond to new legislation and investigated reports received through the Speak Up system, our whistleblowing line

10. Security of business information and networks

GN PD SD IM CS GI

Risk owner
Chief Financial Officer

Why this matters to us

Society and business are subject to more numerous and increasingly sophisticated threats to security, including hackers, viruses and ransomware attacks, while keeping our data safe is subject to increasingly stringent regulatory requirements globally. Our business model relies heavily on the availability of IT networks and systems; an extended interruption of these services may result in an inability to operate.

How we respond

We run our key applications in distributed computing environments with regular failover testing and penetration testing being undertaken. Our information security specialists monitor our IT services and networks, oversee cyber protection solutions and provide regular educations globally about cyber awareness, data protection and responsible use of emerging tools, whilst internal and external auditors review and report on the operation of cyber and system controls annually.

What we have done in 2023

- Responded to an increase in risk from the threat of cyberattacks to all businesses and organisations
- Information Security programme performance has been good with no major cyber security incidents recorded in 2023
- Improved our ability to detect and respond efficiently to new threats, further strengthened our control environment and invested to build internal capability within our dedicated information security team
- Completed external assessment of our Information Security programme versus peers and industry averages

Long-term viability statement

Confirmation of viability

Based on their assessment of its prospects and viability, the Directors confirm that they have an expectation that the Company will be able to continue in operation and meet its liabilities as they fall due over the next three years to 31 December 2026. The Directors also considered it appropriate to prepare the financial statements on a going concern basis, as explained in the Group accounting policies (page 157).

Assessment of viability

We assess viability through two lenses: a 'top-down' test which quantifies the magnitude of profit or loss required to endanger liquidity and our bank covenants and a 'bottom-up' assessment that makes use of downside scenario models, which reflect the key risks facing the Group, to test against the Group's financial headroom and leverage over the viability period.

We evaluate the Group's future outlook through five-year strategic and capital investment plans, with three-year detailed financial modelling being prepared. Most of the detailed sector delivery plans also look forward three years, including product innovation, manufacturing expansion timescale and market development. We chose to use a three-year period for the viability assessment because, given the inherent uncertainty of long-term planning, we believe this is the horizon that provides the most appropriate balance between accuracy and long-term visibility.

Our strategic plan is built from a bottom-up sector view considering different macroeconomic scenarios and near-term risk factors, including weaker demand, inflation and raw material price changes. The base case model and downside scenarios are used to assess the impact for both the viability statement and the going concern assessments. For more on going concern see page 157.

Top-down liquidity headroom

We assess our overall capacity to withstand catastrophic events by stress testing the EBITDA reduction required to trigger a default under our funding covenants, and liquidity headroom available from committed debt facilities, including any which mature within the viability period:

- Bank leverage covenant: the leverage ratio at the end of 2023 of 1.3x remains substantially below the maximum covenant level under the Group's debt facilities of 3.5x. Based on 2023 results, stress testing assesses that EBIT would need to fall by more than 70% to trigger an event of default. In the event that breaching the maximum covenant level was possible, we would also take additional unmodelled action to conserve cash and improve the covenant position (we also test the impact on our interest covenant; however, with a high level of fixed rate debt, it is difficult to construct a plausible scenario which endangers compliance with this covenant);
- Unused committed liquidity headroom: at 31 December 2023, the Group had committed funding in place of £1,050m, with undrawn committed facilities of £381.2m (see page 49 for more details). Current committed debt facilities largely mature in the third year of the viability period and, in normal lending market circumstances, we would expect to have adequate access to renew facilities as these mature. The Company therefore expects to have the necessary liquidity headroom available to cope with unexpected risk events during the viability period.

Bottom-up risk scenario headroom

Using the 'base case' model, individual downside scenario events were identified and modelled. In addition, five severe but plausible combinations of these individual scenario events were tested to assess the potential combined downside impact on the liquidity and covenant headroom of the Group over the three-year viability period. None of the individual scenarios or scenario combinations was found to endanger the liquidity or covenant requirements over the viability period.

The key scenarios tested were as follows:

Scenario	Key assumptions	Principal risks	Scenario combination				
New entrants or enhanced competition in our market space make significant inroads into our business	Loss of business in Consumer Care, Life Sciences and Industrial Specialties	1	●				
Regulatory or reputational issues affecting individual products or product groups	Loss of contribution from significant products	1	●				
Disruptive production or digital customer interaction technologies are brought to the market by competitors and we lose competitiveness	Loss of business in a major technology platform and competitive attrition within Consumer Care and Life Sciences customers	2 3	●				
Escalation of geopolitical upheaval results in sanctions to relevant countries and the global economy moving into recession, with significant business loss	No sales to sanctioned country and lower sales elsewhere, with greater impact in Consumer Care than in Life Sciences reflecting the different levels of exposure to discretionary income	1		●		●	
Failure to secure supply of key raw materials	Loss of contribution from products affected by lack of constrained raw materials	1				●	
Catastrophic incident leading to complete loss of a manufacturing site	Uninsured loss of major manufacturing site resulting in lost margin for an extended period	8					●
Major ethics and compliance breach leading to government investigation and fine	Loss of business due to reputational damage, in addition to cost of fines and legal expenses	9					
Loss of main ERP system for prolonged time	Loss of contribution margin during the ERP outage, mitigated by business continuity actions	10			●		
Cyber attack	A significant cyber attack damages reputation and results in disruption of processes, in addition to costs of data recovery	10			●	●	●
Failure to demonstrate delivery against sustainability commitments	Reputational damage, leading to loss of business in all sectors	4					
Product quality failure leading to a product recall	Financial impact from damages and legal costs in addition to loss of business due to reputational damage. Greater impact in Life Sciences due to nature of product applications	7		●			
Failure to deliver expected benefits from acquisitions	Commercial synergies from recent acquisitions (e.g. Solus Biotech) are not realised	5					
Persistent inflation combined with failure to recover cost increases in the market	Partially absorb increases in raw material and freight costs	1					
Failure to attract, retain and develop the necessary skills to deliver the expected growth	Sales growth rate is affected by lack of necessary skills	6					

The principal risks to which these scenarios relate are as follows:

Principal risks

1. Revenue generation; 2. Product and technology innovation and protection; 3. Digital technology innovation; 4. Delivering sustainable solutions – Climate, Land and People Positive; 5. Management of business change; 6. Our people – culture, wellbeing, talent development and retention; 7. Product quality; 8. Loss of significant manufacturing site (major safety or environmental incident); 9. Ethics and compliance; 10. Security of business information and networks

Non-financial disclosures

Task Force on Climate-related Financial Disclosures (TCFD)

Croda has long recognised the scale of the climate emergency, which we believe creates both opportunities and risks to our future growth. We develop innovative products which help our customers to reduce their own carbon footprint and we set stretching climate related targets as part of our Commitment to become Climate Positive[1] by 2030 (page 34 and Sustainability Impact Report (SIR) – page 13).

On pages 59 to 67 of this report we summarise material climate related disclosures consistent with the four pillars and 11 disclosures proposed by the TCFD, including the "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures" released in October 2021. As part of these disclosures we have considered the guidance in Section C "Guidance for all Sectors" and Section E "Supplemental Guidance for Non-Financial Groups – Materials and Buildings" of the TCFD Annex. We also reference links to further information which can be found in our Annual Report, Sustainability Impact Report (SIR) and Reporting Data Pack (RDP) to supplement our compliance. We cross refer to our SIR throughout this TCFD section as that report offers us additional space to explain our strategic Climate Positive commitment, to illustrate this through case studies (SIR page 12) and enhance our explanation of our targets, metrics and progress (SIR pages 9 to 13). We continue to work to remain aligned with evolving climate and non-financial disclosure requirements as required by the Listing Rules.

Governance

	How we comply	What we have done in 2023	Next steps and timeframes supporting further improvement
a) Describe the Board's oversight of climate related risks and opportunities	As one of the three pillars of our Commitment (page 10), climate risks and opportunities are core to our overall strategy and as such the Board considers climate related issues as part of its annual review of the strategy described on page 77. The Board is accountable for all risks, including those relating to climate, and reviews these annually. It receives a quarterly report from the Chief Sustainability Officer, as well as minutes and discussion materials from each Sustainability Committee meeting, which consider progress against climate targets, including the risks to delivering these. The Board approves significant capital expenditure and acquisition proposals and has oversight of the innovation strategy, considering how these align with our climate and decarbonisation goals. The Remuneration Committee agrees climate related performance objectives which are incorporated into senior leadership remuneration (page 112). The Board guides the leadership values we look for in Croda to ensure we build future leadership capabilities to include sustainability and decarbonisation know-how.	Following Committee discussions, the Board established a Sustainability Oversight Committee (page 98) to increase the capacity and competence of the Board to govern our sustainability approach. The Audit Committee approved the appointment of KPMG to provide limited assurance of the Group Climate Positive KPIs (pages 64 and 103). A sustainability competence framework for Board membership was devised and used in 2023. The induction received by Chris Good included deep dive sessions with Group Sustainability (page 97). The Board attended a dedicated training session aligned with our sustainability strategy.	Implementation of the Sustainability Oversight Committee which will meet quarterly. See page 98 for key responsibilities and focus areas. Audit Committee will continue oversight of non-Financial KPIs as we review the scope of metrics assured. The Audit Committee continues to monitor ESG reporting and disclosures and how we comply.
b) Describe management's role in assessing and managing climate related risks	The Board delegates responsibility for running the business to the Group Chief Executive Officer and the Executive Committee, which includes responsibility for managing climate related issues. A sub-committee, the Sustainability Committee, meets at least quarterly, chaired by the Chief Sustainability Officer who is supported by the Group Sustainability team. The Committee comprises senior leaders (including an executive sponsor for Climate Positive, the President of Global Operations, Mark Robinson) from across the business, each of whom has a responsibility to identify further strategic opportunities, understand the risks posed in delivery of the strategy, monitor progress towards declared targets and coordinate Group-wide engagement with our sustainability targets. Through our risk management framework (page 52) climate related risks are captured, assessed, mitigated and owned at the appropriate level of the organisation. Our Sustainability Professionals Network and local sustainability champions facilitate best practice sharing throughout the organisation, reporting progress back to management. Our organisation structure is shown in the Governance section (page 99).	The terms of reference for the Sustainability Committee were reviewed, approved in April, and include risk and compliance with accountability at Executive level. The Sustainability Committee focused on Executives as members only and increased time spent on monitoring and reviewing of climate related risks. The role of the sustainability champions has been further defined, setting best practice for cascading communication on climate throughout the organisation.	Enhance framework for sustainability risks, controls and oversight in new enterprise risk management system. Roll out awareness and training across the business to support consistent approach to assessment of climate risks.

1. 'Climate Positive' is not considered a technical term with recognised definition, it is the branding Croda have used for our combined climate targets since we publicly launched this strategy in 2020 and indicates our efforts to go further than reducing our own carbon footprint.

Task Force on Climate-related Financial Disclosures (TCFD) continued

Strategy

	How we comply	What we have done in 2023	Next steps and timeframes supporting further improvement
a) Describe the climate related risks and opportunities the organisation has identified over the short, medium and long-term	Our definition of short, medium and long-term time horizons is included on page 62 and they are aligned with business planning and our sustainability strategic commitments to 2030 and interim milestones for delivery. Climate related physical and transitional risks and opportunities are assessed using our global risk framework, described on page 52 of this report. They include increased raw material costs, carbon pricing, emerging regulation and the effects on our people and working environment. The four most impactful climate related risks, and how these were selected, are described in more detail on page 65 of this report, together with a summary of other less impactful risk themes identified from our bottom-up risk registers.	The Sustainability Committee reviewed significant sustainability related risks, transferring ownership to business owners as appropriate to allow improved monitoring and control. Group Sustainability were kept informed of plans for a new enterprise risk management system and will support development of a framework for climate and other sustainability risks as it is rolled out in 2024.	Enhance framework for sustainability risks, controls and oversight in new enterprise risk management system.
b) Describe the impact of climate related risks and opportunities on the organisation's businesses, strategy and financial planning	Delivery of climate-related commitments identified in our Climate Positive strategy form a core part of our overall business strategy and as such the impact of not delivering our climate related objectives is significant. We reflect this in our principal business risks on page 55. The financial impact of the four highest risks in our register is described in more detail on pages 66 to 67 of this report. We include a GHG emissions metric in a revolving credit facility (RCF), with carbon emission targets in the seven-year agreement aligning with our 2030 Climate Positive commitments. Savings are reinvested into the decarbonisation capital expenditure programme. Since 2020 we have applied an internal shadow carbon price to capital investment to help to prioritise projects that will reduce scope 1 and 2 emissions (SIR page 10). All capital projects over £100k are required to complete a sustainability impact assessment. The impact of increased capital cost on impairment and useful economic life is considered on page 157. Since 2021 carbon budgets have been presented annually alongside the financial budgets at regional and sector level, which consider the impact of the short and long-term site decarbonisation plans.	Our business teams finalised 2030 decarbonisation roadmaps. These include scope 3 emissions, enabling the sectors to make portfolio management decisions incorporating carbon footprint data, which will inform the development of the next generation of low carbon products. It is worth noting that carbon offsets form no part of our decarbonisation strategy to 2030. Croda has developed a tool to automate the calculation of cradle-to-gate product carbon footprints. Assisting in business decision-making this has now been launched to customers representing around 70% of our Beauty Care portfolio. During the year, the pace of all of our non-safety-critical projects was reviewed, including some decarbonisation projects. This has introduced some temporary delays, but we remain confident in our ability to meet our Science Based Target by the end of 2029.	Commence development of Net Zero[1] Roadmaps for key technology platforms to support the transformation and future preparedness of our business to grow. Evaluate and reinforce our strategy and investment frameworks in 2024.
c) Describe the resilience of the organisation's strategy, taking into consideration different climate related scenarios	Supported by external consultants, Accenture, we have a detailed climate scenario analysis (CSA) of the most impactful climate related risks identified against three future climate related scenarios to assess our resilience to these risks. Under each scenario we consider impact across six, five-year time periods, which is significantly in excess of our strategic planning horizon but is in line with our commitment to be net zero and our SBT targets. Our methodology is described in more detail on page 62.	Feasibility study completed to scope out an approach to net zero in preparation for developing technology platform based Net Zero Roadmaps. Requirements of the UK Transition Plan Task Force Framework and guidance were reviewed. An initial gap analysis was performed, and scoping workshops held with key leaders to promote awareness and engagement for transition plan development.	Commence development of Net Zero Roadmaps for key technology platforms, to support the transformation and future preparedness of our business to grow. Continue the development of our formal transition plan aligned with the UK Transition Plan Task Force Framework.

1. Our definition of 'Net Zero' is aligned with the SBTi definition: Scope 1, 2 and 3 emissions have been reduced to a residual level (no more than 10% of baseline emissions). Any residual emissions are neutralised by permanent carbon removals to reach net zero emissions.

Risk management

	How we comply	What we have done in 2023	Next steps and timeframes supporting further improvement
a) Describe the organisation's processes for identifying and assessing climate related risks	The process for identifying climate related risks, assessing both their impact and likelihood, is fully embedded as part of our global risk management process which is described on page 51. New and emerging risks and opportunities can be identified at a local level (mainly physical risks) or by the Sustainability Committee (emerging risks requiring action to be driven globally, or requiring more granular analysis). We have used the TCFD framework to support our assessment of climate related risks. Impact and likelihood scoring for all risks uses the six-point scoring methodology defined in the Group risk framework. Emerging risks and opportunities include those resulting from the rapidly evolving climate and sustainability regulation. In both cases a business owner is identified, and the risk is assessed for both impact and likelihood using the global risk framework. As the impact of emerging risks on specific sites or regions is understood, local business owners are identified, and the risks are moved to local risk ownership to drive mitigating actions.	We have worked with external consultants to complete a gap analysis of our global footprint against emerging and current climate regulation to identify emerging risks relating to the changes. This included preparation of a workflow to support our plans for compliance with the EU Corporate Sustainability Reporting Directive (EU) 2022/2464 (CSRD). We have completed an initial review of our readiness to report against International Sustainability Standards Board (ISSB) reporting requirements, mapping against our current response to SASB.	Perform double materiality assessment in 2024 to confirm scope of reporting for CSRD.
b) and c) Describe the organisation's processes for managing climate-related risks. Describe how processes for identifying, assessing and managing climate related risks are integrated into the organisation's overall risk management.	Our Group risk framework, described on page 52, includes risk/opportunity areas across six categories and 17 subcategories, against which risk owners identify local interpretations. Sub-categories most relevant to climate include growth (organic and inorganic), innovation, production, sourcing, supply chain, and external environment, which incorporate the risks and opportunities referred to in appendix 1 of Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures June 2017. Whole Group transitional and emerging risks and opportunities are currently identified by the Sustainability Committee through the 'sustainability risk register'. When fully defined, these risks are migrated into the appropriate local risk register and transferred to local ownership. This includes risks identified through scenario analysis. Local physical climate related risks (both acute and chronic) are already embedded and managed in local risk registers with local owners and mitigation actions defined.	The Decarbonisation and Process Technology Director led a review to test for and secure the continued viability of the site level decarbonisation roadmaps. The Sustainability Committee reviewed significant sustainability related risks, transferring ownership to business owners as appropriate to allow improved monitoring and control. New enterprise risk management system commissioned which will improve the tagging and local monitoring of climate related risks.	Enhance framework for sustainability risks, controls and oversight in new enterprise risk management system. Formally embed accountabilities for climate related risks across our business teams. Launch the Sustainability Academy to develop our knowledge and competence enabling the wider Croda community to assist in the identification of risks and mitigation improvements.

Task Force on Climate-related Financial Disclosures (TCFD) continued

Climate scenario analysis (CSA) methodology

The CSA was conducted using a standard methodology in line with the TCFD's guidance. Climate scenarios defined primarily by the Network for Greening the Financial Systems (NGFS) and supplemented with comparable Shared Socioeconomic Pathways (SSP) and Orbitas Finance scenarios, were used to model the potential climate related risks and opportunities that Croda may be exposed to, which were identified through our risk assessment process described in more detail on pages 53 to 55 of this report.

Three climate scenarios

	Orderly	Disorderly	Hot House World
Description	Assumes climate policies are introduced early and become gradually more stringent. There is increased international coordination and commitment to achieving development goals that reduce inequality across and within countries. Consumption is generally oriented toward low material growth as well as lower resource and energy intensity.	Assumes uneven commitment to climate policies with some countries making relatively good progress while others fall short of expectations. Disorderly scenarios exhibit higher transition risks due to coordinated policies being delayed to latter half of the century and medium-term and immediate progress being divergent across countries and sectors.	Assumes the drive for economic and social development is coupled with increased emissions due to continued consumption of fossil fuels and the adoption of resource and energy intensive lifestyles around the world. Climate policies are implemented in some jurisdictions, but global efforts are insufficient to halt significant warming.
NGFS scenarios	Net Zero 2050	Delayed Transition, Divergent Net Zero	Current Policies
SSP scenarios	SSP 1-2.6	SSP 2-4.5	SSP 5-8.5
Orbitas scenarios	Co-ordinated Projects	-	BAU Projections
Estimated 2100 warming	1.5-2°C	2-3°C	3°C+

Three time horizons:

Short-term: 0 - 3 years, this is aligned with our time horizon used in our viability assessment (page 58) and with our interim sustainability milestones focused on delivery by or ahead of this date. This time horizon encompasses the typical life time of our plant and equipment.

Medium-term: 3 – 10 years, this is aligned to our strategic planning horizons. This time horizon encompasses targets supporting our Commitment to be Climate, Land and People Positive by 2030.

Long-term: 10 – 30 years, this is aligned to our longer-term aspirations including our Commitment to be net zero by 2050.

Six time points:

The assessment considered six time points, each five years apart, from 2025 to 2050, with 2030 reflecting our medium-term timeframe.

Defining financial impact materiality:

Risk impact is assessed using the same six point financial impact scale used in our group risk framework and is colour coded as follows:

Risk impact score	Financial impact
1-2	Opportunity – Minor Impact
3-4	Low – Moderate Impact
5-6	High – Critical Impact

Building the scenarios:

In line with good practice Croda commits to formally review the CSA at least every 3 years. The CSA was first performed in 2021, then refined and re-baselined in 2022 to remove the contribution of the majority Performance Technologies and Industrial Chemicals business divested in June 2022 and include the climate footprint of businesses acquired in 2021. Multi-disciplinary workshop groups reviewed the assumptions for forecasting our growth (using financial assumptions used in our strategic forecasting process), and our demands for each of raw materials, energy and people. The baseline for our energy estimates and site water use are taken from our non-financial reporting system, Sphera, which is fed with quarterly actual data from all our sites globally. There have been no material changes to the organisation in 2023, and periodic risk reviews confirmed that our principal risks reported in 2022 remain relevant and no new principal risks were identified (see page 55). No factors were identified to impact on the validity of the 2022 CSA.

Modelled in conjunction with external scenario data from the NGFS, Orbitas Finance and SSP to forecast and quantify the potential levels of climate related financial risk in line with Croda's risk matrix, the results of our 2022 assessment are shared on pages 66 and 67.

For each transitional risk we also considered the impact under the assumption that Croda continues to operate as today (business as usual) and secondly that mitigating actions to meet our verified science based targets are successfully implemented. This clearly illustrates the significance of the mitigating steps Croda is taking.

Croda climate scenario analysis has been conducted at an organisational level, however regions or sites that have material contributions to the overall risks have been identified, affording the opportunity to account for any dominant locations in the assumptions used.

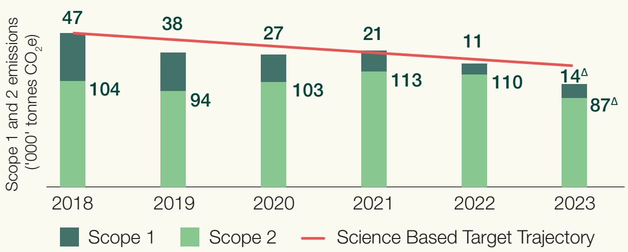
Metrics and targets

	How we comply	What we have done in 2023	Next steps and timeframes supporting further improvement
a) Disclose the metrics used by the organisation to assess climate related risks and opportunities in line with its strategy and risk management process	Our sustainability strategy (page 36) defines strategic targets and milestones for 2030, progress towards which is reported quarterly to the Executive and Board. The metrics used to assess progress, and a description of the targets are presented in more detail on page 64 and in our Sustainability Impact Report on pages 13, 18, 23 and 26, and cover the following: • Absolute scope 1, 2 and 3 emissions and emissions intensity • Energy usage • Land use and land area saved • Water Impact • Bio-based Raw Material • Process Waste to Landfill Further climate related measures have been proposed for our primary transition and physical risks. These are presented alongside the relevant target on pages 66 and 67. The Remuneration Committee includes sustainability targets in the Performance Share Plan for senior executives currently relating to 15% of the award (page 122). We apply a shadow carbon price to capital expenditure projects, aiding prioritisation of those that result in reduced scope 1 and 2 emissions. This price is set at £124/tonne in line with the UK Government Green Guide. Refer to page 157 for consideration of climate change on our financial impact performance and position.	Conducted a review against the cross-industry metrics identified in Table A2.1 of the 2021 Implementation Guidance. New metrics have been proposed to assist better understanding of our exposure to key transitional and physical risks. See page 66 and 67. Further work is required to allow us to propose meaningful metrics for Climate Related Opportunities and Capital Deployment. In 2023 we have updated our Capex system to allow future tracking of our spend on decarbonisation. The results of our planned double materiality assessment in 2024 will aid identification of future measures. In addition, we have completed an initial review of our readiness to report against International Sustainability Standards Board (ISSB) reporting requirements, reflecting on the extent of our disclosures across this report, our Sustainability Impact Report and our Reporting Data Pack. Further works will be completed in 2024 to enhance our response.	Determine means to develop further meaningful metrics against TCFD and ISSB recommendations supported by quality data. Develop improved data management controls, reviewing opportunities to enhance reporting accessibility to leadership at business, Executive and Board level.
b) Disclose scope 1, scope 2 and, if appropriate, scope 3 greenhouse gas emissions and the related risks	Scope 1, 2 and 3 greenhouse gas emissions and our calculation methodology are disclosed on page 64. Information on energy, water and waste is recorded in our Sphera system by all Croda locations globally as a single source of data for reporting of these and scope 1 and 2 emissions metrics. Our scope 3 upstream emissions are calculated using our automated corporate dashboard. Our 2023 GHG emissions and many other climate metrics (marked $^{\Delta}$ throughout this reporting suite) have been assured (limited assurance) under ISAE (UK) 3000 and ISAE 3410 by KPMG, our independent assurance provider (opinion statement can be found at www.croda.com/sustainability). We have re-stated our reporting for 2018 - 2022 (see SIR page 25 for details). This has been re-verified by Accenture with their formal independent verification statement available at www.croda.com/sustainability, which also includes a summary of the calculation methodologies used. Our chosen calculation of carbon intensity is not industry standard and uses 'value add' as a measure of profit. This allows us to demonstrate how we are decoupling economic growth from environmental impact.	Croda has developed a tool to automate the calculation of cradle-to-gate product carbon footprints. Assisting in business decision making this has now been launched to customers representing around 70% of our Beauty Care portfolio. We have worked with Accenture to develop a downstream scope 3 inventory. This is based on life cycle assessment and extended input and output models. See page 11 of the SIR for the results of this modelling and potential benefits to our customers.	Commence development of Net Zero Roadmaps for key technology platforms, to support the transformation and future preparedness of our business to grow.
c) Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets	We have set strategic targets and milestones for 2030 as described in section a) above. Progress towards meeting these targets is reported quarterly to the Executive and Board. All targets are absolute. Supplemental information on our performance and progress is available in more detail on pages 9 to 13 of our Sustainability Impact Report. Refer to page 157 for consideration of climate change on our financial impact performance and position.	A detailed description of the targets and our progress towards these in 2023 is included in our Sustainability Impact Report page 13. A full financial and non-financial data pack has been developed and is available on our website at www.croda.com/sustainability KPMG engaged to provide limited assurance of our 2023 performance against a set of climate positive KPIs. Their opinion and our reporting criteria document are available online at www.croda.com/sustainability.	Develop improved data management controls, reviewing opportunities to enhance reporting accessibility to leadership at business, Executive and Board level. Review scope of KPIs for inclusion in limited assurance in 2024 to reflect strategic priorities and anticipation of future regulatory demands.

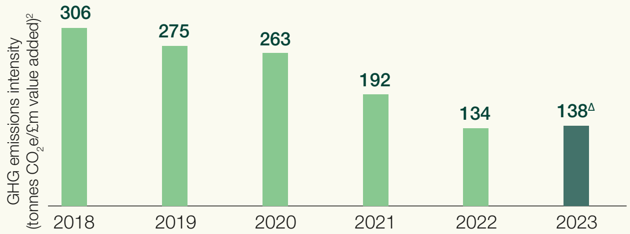
Task Force on Climate-related Financial Disclosures (TCFD) continued

Greenhouse gas emissions and intensity charts

GHG emissions[1]



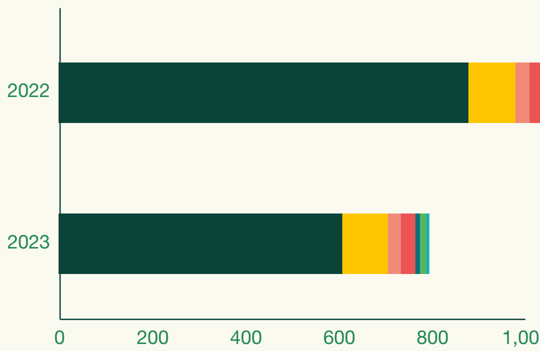
GHG emissions intensity



Emissions and energy usage

	2023			2022		
	UK	**Rest of world**	**Total**	UK	Rest of world	Total
Scope 1/tonnes CO_2e	**15,024**	**71,716**	**86,740Δ**	16,993	93,494	110,487
Scope 2/tonnes CO_2e	**71**	**14,435**	**14,506Δ**	278	10,357	10,635
Total scope 1 and 2/tonnes CO_2e	**15,095**	**86,151**	**101,246**	17,271	103,851	121,122
Scope 1 energy use/kWh	**80,224,063**	**498,663,176**	**578,887,239**	90,562,665	586,794,011	677,356,676
Scope 2 energy use/kWh	**21,012,966**	**178,047,363**	**199,060,329**	22,428,163	184,828,162	207,256,325
Total energy use/kWh	**101,237,029**	**676,710,539**	**777,947,568**	112,990,828	771,622,173	884,613,001

Upstream scope 3 emissions[3] by category ('000 tonnes of CO_2e)



2023 breakdown

- Purchased goods and services – 76.6%
  - Raw materials – 66.5%
  - PFR/tolling – 3.7%
  - Packaging – 3.3%
  - Other – 3.1%
- Capital goods – 12.3%
- Fuel and energy-related – 3.4%
- Upstream transportation and distribution – 4.0%
  - Road and sea – 3.4%
  - Air – 0.6%
- Waste generated in operations – 1.2%
- Business travel – 1.8%
- Employee commuting – 0.7%

Since 2018, our baseline year, our total scope 1 and 2 greenhouse gas (GHG) emissions have reduced by 33%. Within this, scope 1 emissions decreased by 17% and we have seen a greater than 69% reduction in scope 2 emissions. Scope 1 and 2 GHG emissions from our UK operations were 15,095 TCO_2e in 2023 (2022: 17,271 TCO_2e) representing approximately 15% of our global GHG emissions.

In 2023 upstream scope 3 emissions decreased by 27% and we are now able to report downstream scope 3 emissions for the first time (see page 11 of our Sustainability Impact Report for more detail).

Limited assurance of GHG emissions dataΔ

Δ indicates where metrics have been assured (limited assurance) under ISAE (UK) 3000 and ISAE 3410 by KPMG, our independent assurance provider. See www.croda.com/sustainability for details.

Emissions intensity

Our chosen measure of GHG emission intensity divides our GHG emissions (including market-based scope 2 emissions) by value added[2], a measure of our business activity. The GHG emission intensity for 2023 has been calculated using assured scope 1 and scope 2 emissions data and estimated value added. The result for 2022 uses verified[4] scope 1 and 2 emissions and an estimated value added if the PTIC divestment have been completed at 01 January 2022. Results for 2018-2021 use actual value added and scope 1 and scope 2 emissions inclusive of the divested locations.

On this basis, our GHG emissions intensity has improved by 55% since 2018, indicating we are decoupling growth from climate impact.

Energy consumption and efficiency improvements

In 2023 we consumed 777,947,568 kWh (2022: 884,613,001kWh) of energy across our global operations. This included 101,237,029 kWh (2022: 112,990,828 kWh) consumed by UK operations.

As part of our strategy to improve the efficiency of energy consumption, 28 projects were implemented globally, realising 22,231,185 kWh of annualised efficiency improvements, equivalent to 3,798 TCO_2e avoided emissions.

1. Our GHG inventory has been completed in accordance with the Greenhouse Gas Protocol, Corporate Accounting and Reporting Standard (Revised Edition) using the operational controls approach. Scope 1 emissions are calculated using UK Government emission conversion factors for greenhouse gas company reporting. Scope 2 emissions have been calculated in line with the market-based method set out in the GHG Protocol Scope 2 standard.
2. Value add: Croda Group adjusted operating profit before depreciation, amortisation and Group employment costs including Directors, Share based payment costs and non-exceptional redundancies, at reported currency.
3. Our scope 3 emissions are calculated in accordance with The GHG Protocol Corporate Value Chain Scope 3 standard and cover all relevant upstream categories. Scope 3 emissions are calculated using primarily LCA data, and where this is not available, an Extended Environmental Input-Output (EEIO) model method – using spend data, to quantify the emissions associated with a sector of the economy in a given geography.
4. Emissions data for 2018 – 2022 has been restated and verified by Accenture see www.croda.com/sustainability for their verification statement. See page 25 of SIR for more information.

Identifying our highest impact climate risks and opportunities

Climate related risks and opportunities are identified at all levels of our organisation and are assessed for both impact and likelihood using our global risk framework (page 52). Detailed scenario analysis was originally conducted in 2021 to investigate the risks identified to have the highest financial impact from these bottom-up assessments. The updated modelling in 2022 reduced the impact of climate on labour productivity which, we removed from our disclosure, and increased our assessment of water usage which we then introduced. We have enhanced our reporting in 2023 to reflect our assessment of water impacts, disruption from both water stress and flooding, rather than simple water usage. We consider the geographical impact of these key risks below.

Transitional risks

Climate risk	Description of risk/opportunity	Geographical impact
Impact of carbon pricing on our emissions	Rising carbon emissions from our sites may impact profits through increased direct costs if emissions are taxed. Evolving local regulation in key markets and regions, such as the EU carbon border tax, will add further pressure.	Atlas Point is our largest contributor to scope 1 & 2 emissions and when viewed with our other manufacturing sites in North America this region is the most material, accounting for c.43% of our scope 1 & 2 emissions.
Impact of carbon pricing on the cost of utilities, particularly natural gas	The increasing cost of natural gas resulting from recent geopolitical issues may increase further as a result of carbon pricing. Natural gas is a key utility used in our manufacturing process, accounting for 58% of our energy consumption.	Atlas Point is currently our largest consumer of natural gas and when viewed with our other manufacturing sites in North America this region is the most material, accounting for more than 50% of our natural gas consumption.

Physical risks

Climate risk	Description of risk/opportunity	Geographical impact
Climate change impact on the availability of natural raw materials	Potential changes in mean global temperatures are likely to affect the location, yield and type of crops grown around the world, with a resulting impact on raw material availability and cost. Palm oil derivatives form a significant volume of our raw materials and this trend is expected to continue. As such the future change in the price of palm derivatives will have a direct effect on the cost of palm-based products/ingredients.	The use of palm oil derivatised raw materials is spread across our operations. Asia has the highest use c.46% followed by Western Europe c.28% of our total purchased palm oil derivatives.
Water impact – water stress and flood risk	Changes in global climate can significantly increase/decrease precipitation at a given location over time. Potential changes in precipitation, reduced rainfall over extended periods and extreme rainfall events are likely to affect Croda sites 1) water stressed locations by causing droughts or 2) in areas of increased riverine floodrisk. This can have financial implications for local industry by impacting regional water supply, with loss of production due to flood damage leading to lost revenue and potential loss of business.	Changes in global climate have varied localised effects and therefore periods of both high and low precipitation levels will become increasingly extreme and prolonged. Sites located in water stressed areas across Southern Europe, Northern Africa and Latin America are expected to face increasingly arid conditions. As reported in 2022 the scenario analysis has demonstrated that there is no material financial risk associated with operating our sites in water stressed regions. Sites located in riverine flood risks in India, and those with recent flood events in Alabaster and Mevisa, are expected to face increasing risks. The results for the flood risk component have been reported on page 67.

Other climate related risks/opportunities identified

Other climate related risks currently assessed to have a lower impact are identified in our risk registers across products and services, distribution and supply chain, suppliers, R&D, operations and acquisitions and divestments.

Task Force on Climate-related Financial Disclosures (TCFD) continued

The tables below set out the assumptions used, the risk profile generated and our planned mitigations for each of the four key climate risks selected. Our analysis shows that the financial risks they present to Croda could be managed by currently planned mitigating actions meaning that we would not have to materially change our strategy or business model and indicating confidence in the resilience of both. The impact of climate change is considered under our Accounting Policies, see page 157.

Impact of carbon pricing on our emissions

Driver for assumptions

Using Croda revenue and GHG emissions projections, the potential cost impact of increased carbon prices associated with Croda emissions (scope 1 and 2) was calculated. Predicted emissions were reviewed for assumptions of both no climate action (pro-rata for 2021 performance) and achievement of our net zero strategy, considering our validated SBT trajectory to 2030.

The cost was modelled across the future climate related scenarios using carbon price models at an organisational level from the NGFS database.

Risk profile and financial impact

In a Hot House World scenario, the additional cost of carbon tax increases is limited, resulting in a minor level of financial risk to the business out to 2050.

In both the Disorderly and Orderly transition scenarios the additional costs due to higher levels of carbon taxation and restrictive measures are forecast to expose Croda to high levels of financial risk beyond 2035 and 2040 respectively assuming a business-as-usual emissions trajectory.

(Worst case of Disorderly transition)

This is mitigated when following the planned emissions reduction trajectory in line with Croda's current verified Science Based Targets.

(Disorderly transition after incorporating decarbonisation strategy)

Mitigations and measures

Croda has a verified 1.5°C 2030 Science Based Target. Every location, including non-manufacturing sites, has a decarbonisation road map towards achieving a 50% reduction in scope 1 and 2 emissions by the end of 2029. The quality assessment process for these was externally validated by Accenture.

Whilst a high proportion of the reduction is based on alternative energy sources, assuring a high confidence level, our plans also cover reducing energy consumption and increasing energy efficiency. For example, our manufacturing site in Spain installed a heat recovery system and solar panels that led to a reduction in annual CO_2 emissions of 15%., Incotec's new highly sustainable Aquarela site in Holambra, Brazil has 788 solar panels installed on the roof, aiming to generate 100% of its electricity consumption, our site in Chocques, France, receives steam, vital for process heating, from a local municipal waste incinerator verified as having zero impact on the site's scope 2 emissions and several UK collaborative funding opportunities have been applied for to further accelerate the decarbonisation of our heat. For further details see pages 9 to 13 of our Sustainability Impact Report.

We apply a shadow carbon price to capital expenditure projects, aiding prioritisation of those that result in reduced scope 1 and 2 emissions. This price is set at £124/tonne in line with the UK Government Green Guide.

Related targets and metrics:

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%

(see page 64 for progress)

Potential carbon tax based on scope 1 & 2 (market-based) emissions: £12.6m 2023, £15m 2022

Potential carbon tax as % PBT: 4% 2023, 3% 2022

Impact of carbon pricing on utilities, particularly natural gas

Driver for assumptions

Using Croda revenue and natural gas usage projections, this scenario assessed the possible cost to Croda of increased natural gas prices. Predicted natural gas usage was reviewed for assumptions of both no climate action (pro-rata for 2021 performance) and achievement of our decarbonisation strategy. The cost was modelled across the future climate related scenarios using natural gas price models at an organisational level from the NGFS database.

Risk profile and financial impact

In a business-as-usual energy usage trajectory, the Hot House World scenario saw the lowest levels of financial risk, with a moderate risk level to 2050.

In both the Disorderly and Orderly transition scenarios the additional costs due to natural gas price increases are expected to expose Croda to high levels of financial risk from 2045 and 2050 respectively.

(Worst case of Disorderly transition)

This is mitigated to low risk levels by implementing Croda's current decarbonisation strategy, resulting in reduced usage of natural gas:

(Disorderly transition scenario after incorporating decarbonisation strategy)

Mitigations and measures

The development of our decarbonisation road maps has enabled all locations to assess the opportunities for migrating to alternative energy sources, reducing energy consumption and increasing energy efficiency. Notable projects relating to natural gas substitution include the installation of a bioethanol boiler on our manufacturing site in Brazil, our Singapore site has switched from steam heat tracing to electrical, using less natural gas, and our Atlas Point site at Delaware, USA has increased its landfill gas burning capability in 2023 to replace part of its natural gas demand. As a material consumer, the latter will substantially reduce Croda's overall exposure to natural gas pricing.

(For further details see SIR page 10).

Related targets and metrics:

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%

(see page 64 for progress against our emissions targets and details of our total energy consumption)

PBT per kWh natural gas consumed: £0.7 / kWh 2023, £0.8 / kWh 2022

Risk impact score	Financial impact
1-2	Opportunity – Minor Impact
3-4	Low – Moderate Impact
5-6	High – Critical Impact

Impact of climate change on raw material availability

Driver for assumptions	Risk profile and financial impact	Mitigations and measures
The potential changes in the cost of sales that Croda may be exposed to has been modelled using the future percentage increase of palm oil prices (Orbitas – Climate Transition Risk Analyst Brief: Indonesian Palm Oil) against the total volumes and price of palm oil derivatives purchased by Croda in 2021. Indonesia is the dominant origin of Croda's supply. The cost of palm oil is forecast to expose Croda to varying levels of risk across the two different climate related scenarios – Current Policies and Net Zero 2050 – for which clear models are available.	In the Hot House World scenario, the cost of palm oil increase is limited, resulting in a low level of financial risk to the business out to 2035, at which point the cost of palm oil is forecast to drop below the 2021 baseline cost resulting in a cost saving opportunity for the business, driven by continual efficiency improvement in farming technologies (partially supported by Croda crop innovation) driving prices down. In an Orderly transition scenario, a predicted increase in the cost of palm oil (driven by increasing demand for palm oil as an alternative to fossil based oils for fuel) is expected to drive initially moderate impacts towards critical levels of financial risk by 2045. 2025 2030 2050 (Orderly transition)	Roundtable on Sustainable Palm Oil (RSPO) certified palm oil cultivation leads to increased yields due to more efficient farming practices, increasing availability of palm and palm kernel oil without further deforestation. Being a leading voice in industry and working with coalitions such as Action for Sustainable Derivatives (ASD) to drive further industry transition to RSPO helps to mitigate the risks associated with increased pricing due to lack of availability. 88.4% of our palm derivative purchases in 2023 were RSPO-certified and >99% of purchased volumes in 2022 were mapped back to either refineries, mills or plantations, working with ASD. For further details see page 15 of our Sustainability Impact Report. Our focus on high value niches and differentiated products with unique characteristics also helps to mitigate this risk by enabling us to pass on raw material cost increases to our customers. **Related targets and metrics** By 2030, over 75% of our organic raw materials by weight will be bio-based, absorbing carbon from the atmosphere as they grow. 59% in 2023$^{\Delta}$ and 59% in 2022 of our organic raw materials were bio-based. We seek to improve mapping in 2024 to allow future reporting of % revenue linked to bio-based raw materials.

Water Impact - Riverine Flood risk

Driver for assumptions	Risk profile and financial impact	Mitigations and Measures
The most at-risk sites were identified as either being within areas of Extremely High Riverine Flood Risk from the WRI Aquaduct tool or have recently been exposed to flooding events. Using Croda revenue and assessment of financial impact (loss production leading to lost revenue and potential loss of business), this scenario assessed the possible cost to Croda of damage from river floods. The cost was modelled across the future climate related scenarios in line with expected annual growth rate (CAGR) and increase in Annual Expected Damage from River Floods for India from the NGFS database. India was chosen due to the higher risk of flooding at Croda's sites in this area.	In all three forecasted climate scenarios (Hot House World, Disorderly and Orderly), the predicted cost increase as a result of Annual Expected Damage from River Floods reaches 'high' levels of financial risk to the business by 2040. This gradual increase in financial exposure is replicated across all four sites in the analysis. 2025 2030 2050 (Orderly transition)	Following a specific risk assessment conducted by Croda's insurers, with recommended controls, the residual risk is relatively low to the business. Specific measures underway include implementing flood mitigation strategies including flood monitoring, hard defences in the form of flood barriers and soft defences such as marshland/wetlands. Contingency plans and controls are in place for these variations and flooding scenarios. Croda has multiple sites which can produce products which alleviates this issue, and there is a large investment in the region to mitigate this. To measure our water use impact, Croda developed an internal methodology that considers the entire water cycle and accounts for the social, environmental, and business impacts of water use. Six Croda sites were identified as being located in regions exposed to the highest levels of disruption from water impacts (flooding or water stress) and have defined realistic water impact reduction roadmaps. **Related targets and metrics:** Reduce our water use impact by 50% from our 2018 baseline: By the end of 2022 there had been an 18% reduction from the baseline water impact score for our six material sites. % revenue for sites with significant risk of Flood: 14.9% 2023, 13.7% 2022. Note this is gross risk and does not account for transfer of production at alternative locations.

Non-financial disclosures

Non-financial and sustainability information statement

In accordance with the Non-Financial Reporting Directive we have summarised where non-financial information relating to environmental, employee, social, respect for human rights, anti-corruption and anti-bribery matters can be found in our Annual Report (AR), Sustainability Impact Report (SIR) and online. Our Viability Statement on page 58 assesses the key risks and combinations of risks (including consideration of business relationships and products) which could adversely impact the Group. Confirming environmental integrity and social accountability is an increasingly important prerequisite in our upstream supply chains. During 2023 we can confirm there were no significant safety, health, environment or quality incidents across our operations on which to report.

Our Purpose
Smart science to improve lives™ 10

Business model
- What we do 12 2
- Value and impact creation 14 3
- Stakeholders 15 4

Global megatrends 24
We have identified three global challenges our strategy helps to address:

- Feeding a growing population and restoring nature
- Living more sustainably within planetary boundaries
- Global demand for health and wellbeing

Other sources of Non-Financial and Sustainability Information
Further information can be found in our Sustainability Impact report (SIR), Reporting Datapack (RDP) and online at www.croda.com

● Annual report page number

● Sustainability Impact Report (SIR) page number

All policies listed can be found using the QR code below:

Risk	Policies	Impacts and metrics
Environmental matters		
• Major safety or environment incidents 68 • Delivering sustainable solutions 55 • TCFD 59	• Supplier code of conduct • Group SHE policy	• Process safety (TRIR) 35 19 • Environmental stewardship 18 • Product stewardship 18 • Sustainable sourcing and supplier partnership 13 • Climate Positive 34 13 • Land Positive 34 18
Respect for human rights		
• Our people 56	• Code of conduct • Guidelines policy for Managing Diversity	• Fair income (Living Wage) 117 23
Social matters		
• Our people 56 19	• Code of Conduct • Guidelines policy for Managing Diversity • Group Transgender policy	• Diversity and inclusion 93 23
Employees		
• Our people 56 19 • Ethics and compliance 57	• Group Code of Ethics • Code of Conduct • Group policy on Training and Development • Equal opportunities policy • Group SHE policy	• Culture 16 • Key people metrics 94 • Purpose and Sustainability Commitment Score (Workforce Engagement) 35 • Gender balance 95 23 • Health, Safety and Wellbeing 23
Anti bribery and corruption		
• Responsible business 26	• Code of Conduct • Guidelines policy for Managing Diversity • Group Transgender policy • Anti bribery and corruption statement • Ethics and anti-corruption compliance programme • Croda modern slavery statement • Whistleblowing reporting procedure • Competition law policy • Croda fraud policy	• Responsible business 26
Business model		
• Principal risks 53		• Key performance indicators 34

Materiality matrix

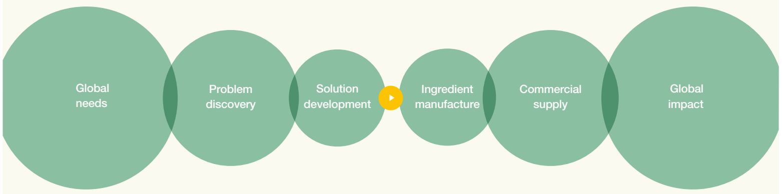
This grid provides a summary of the key issues identified through our latest materiality assessment and how they relate to Croda.

Climate positive · Land positive · People positive · Fundamentals

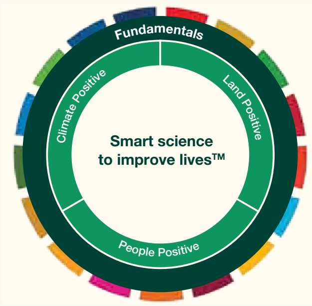
Material areas that range across axes

	Croda's impact on the world	The world's impact on Croda
Risk to Croda, therefore a challenge	C Climate action 34 9 L Environmental stewardship 18 F Process safety 23 F Health, safety and wellbeing 35 23	L Circular economy 16 C Global change preparedness 55
Material areas that range across axes	Growing business for good 12 4 Diversity and inclusion 20 Product stewardship 16	Biodiversity 14
Opportunity for Croda to provide a solution	C L P Product innovation 36 P F Our people 56 19 F Responsible business 26 F Knowledge management 23 P Community education and engagement 22	F Supplier partnership 9 F Customer intimacy 13

Executing the vision



Our Commitment is to be Climate, Land and People Positive by 2030, working towards our goal of becoming the world's most sustainable supplier of innovative ingredients. We will be a partner of choice for our customers and suppliers in delivering on our strategy and will maximise our positive impacts on climate, nature and society.



Oversight

Accountability for delivery of our strategy is embedded across the company, monitored by the Sustainability Committee and supported by Group Sustainability, our in-house centre of excellence.

New Board-level Sustainability Oversight Committee

Given the growing importance of the sustainability agenda to our stakeholders and its core position in our corporate strategy, the Board approved the creation of a Board-level Sustainability Oversight Committee (BSOC) for 2024, to be led by Chris Good, Non-Executive Director. The new Committee will create additional capacity at Board level to give due attention to this growing area of governance and develop the ESG competency of Board members. The BSOC met for the first time in January 2024.