Meeting global challenges

The world is facing global challenges that will shape our lives, consumer demands and technology megatrends for generations to come.

Capturing new opportunities

By applying our Purpose and using Smart science to improve lives we can rise to the challenges society faces, capturing new opportunities for growth.

Living sustainably within our planetary boundaries

Global demand for health and wellbeing

Feeding a growing population and restoring nature

For more information on the global challenges See pages 24-26

How this report is structured

Our strategic report includes three core sections to communicate our story and how we are addressing global challenges and capturing new opportunities for growth:

Strength in our foundations

See pages 2-23

Exploring new horizons

See pages 24-33

Delivering consistent outperformance

See pages 34-51

Our Purpose, culture, business model and strategy underpin our success and provide us with strong foundations.

We are repositioning our portfolio to be more closely aligned with the powerful megatrends that are reshaping our markets, creating new growth opportunities, where we can apply our smart science to improve lives.

These pages cover our performance in 2022, demonstrating consistent execution against our strategy and commitment to be Climate, Land and People Positive by 2030.
At a glance
A balanced global footprint

About us
Croda is the name behind some of the world’s most successful brands. We combine our knowledge, passion and entrepreneurial spirit to create, make and sell innovative ingredients that are relied on by industries and consumers around the world.

Our Purpose
We provide practical solutions to help address some of the world’s biggest challenges. Our Purpose, Smart science to improve lives™, underpins everything we do.

Our Commitment
We are committed to being the world’s most sustainable supplier of innovative ingredients by becoming Climate, Land and People Positive by 2030. The United Nations Sustainability Development Goals (SDGs) underpin our approach.

Where we operate
We operate globally with a balanced footprint across 92 sites, constituting global manufacturing, with local sales offices and innovation centres. Our footprint balances the need for efficient manufacturing operations with our desire to be close to customers. Our 24 principal manufacturing sites are complemented by 19 local manufacturing sites that typically support our Fragrances and Flavours and Seed Enhancement businesses. All our locations have externally validated decarbonisation roadmaps in place.

North America
5 manufacturing sites
6 innovation centres
6 sales offices

Latin America
5 manufacturing sites
6 innovation centres
11 sales offices

Employees by region
- Asia
  1,526
- Latin America
  454
- North America
  961
- Europe, Middle East & Africa
  2,884

Key
- Principal manufacturing site
- Other manufacturing site
- Innovation centre
- Sales office
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 Pharma
We develop components and systems for the delivery of Active Pharmaceutical Ingredients (APIs), enabling delivery of the next generation of biologic drugs and vaccines.

Crop Care
Innovating for sustainable agriculture
We are an innovation partner to crop science companies, developing delivery systems to meet the sustainability challenges and enable next generation solutions.

Sales by region

Europe, Middle East & Africa
- 18 manufacturing sites
- 21 innovation centres
- 28 sales offices

Asia
- 15 manufacturing sites
- 13 innovation centres
- 25 sales offices

Sales by sector

Life Sciences
- Life Sciences £682.3m
- Industrial Specialties £509.2m

Consumer Care
- Consumer Care £897.8m

See page 42 for a description of the role of Industrial Specialties.
Chair’s statement

Strong foundations, new horizons and a consistent track record

“Croda has always had a unique culture, built on customer intimacy and innovation, and reflecting an entrepreneurial spirit.”

Dame Anita Frew DBE, Chair

Strength in our foundations

Following Croda’s significant strategic transition over recent years we have a compelling, focused portfolio, operating in attractive market niches with long-term trends creating valuable growth opportunities. This Annual Report sets out how we are meeting the global challenges of today and capturing these new opportunities. Given Croda’s long history of successful development, this journey is explored through our strong foundations, new horizons and consistent outperformance.

Purpose-led

Our Purpose is the bedrock of our approach. Firstly, 2022 has seen us strive to deliver more for our customers, working closely with our partners to overcome global supply chain and demand challenges. The second year of our global survey showed an improvement in our customer rating. Secondly, we have looked after our employees in the face of escalating living costs – already a living wage employer, in 2022 we added new benefits, such as free private health care for all UK employees and one-off payments that benefitted many of our lower paid employees the most. All employees globally were gifted 10 Croda shares under our Free Share Plan, enabling them to share in Croda’s success as shareholders, and recognising that our success is driven by our people, whom I thank on behalf of the Board, for their hard work, dedication and customer focus. Thirdly, we are benefiting our communities, through our long-standing volunteering programme and educational outreach. In addition, the Croda Foundation has approved over £1.1m in funding for 13 projects and distributed £1.8m of restricted health care grants to vaccine and health infrastructure projects in South Asia, Africa and Brazil. Collectively these projects are benefiting over 14.9 million lives, including indigenous tribes in the Amazon as outlined in the case study to the right.

People-first culture

Croda has always had a unique culture, built on customer intimacy and innovation, and reflecting an entrepreneurial spirit. Promoting this ‘One Croda’ culture and our values is important to our long-term success; in our decentralised model, this allows decisions to be taken close to customers, making us more agile, whilst delivering the governance and consistency we expect. Our culture is also enabling us successfully to onboard new employees with over 3,000 new employees joining Croda either through recruitment or acquisition since the end of 2019. Our employee survey is delivering consistently high engagement scores. The Board is also promoting diversity, with a target to achieve gender balance in leadership roles by 2030. 2022 saw women occupy 38% of these roles (2021: 36%).

An experienced Board

Alongside having an effective and challenging Board, I am pleased that the Board has met gender and ethnic diversity commitments under the Parker and Hampton Alexander Reviews. We have also expanded the skill set of our Non-Executive Directors (NEDs) to reflect Croda’s journey to a ‘pure play’ focus on Consumer Care and Life Sciences. During 2022, we welcomed Nawal Ouzren, CEO of biopharmaceutical company Sensorion, as a NED.

The 2023 AGM will see the retirement of two Board colleagues. Dr Helena Ganczakowski retires after nine years of NED service, having served as Chair of the Remuneration Committee and Senior Independent Director. Jez Maiden retires after eight years as Group Finance Director, to be replaced by Louisa Burdett, who joined the Board this January and who was, until recently, Chief Financial Officer of Meggitt Plc.

On behalf of the Board, I would like to thank both Helena and Jez for their outstanding contributions to the development and growth of Croda and for the diligence, intellect and thoughtful manner in which they have approached their roles. With our recent appointments, your Board has the diversity of experience to provide effective oversight and guidance as Croda enters its next phase of growth.

Ordinary dividend

+8.0% (2021: +9.9%)

Lives benefitted by Croda Foundation

14.9m
Established business model
Croda has a well established and powerful business model, founded on a direct sales force who build relationships with customers and provide insights into new opportunities, that are key to developing new products. We are a leading innovator in our markets, with a technology portfolio differentiated by valuable know-how, giving our ingredients unique characteristics. We leverage this portfolio to target fast growth niches, where our innovative and sustainable ingredients are valued through higher margins. This business model is enabling successful implementation of our strategy and consistent outperformance.

Exploring new horizons
Whilst our Purpose remains constant and our culture and business model have developed with new challenges, our strategy has continued to evolve. Working together over the last two years, the Board and Executive Committee have repositioned Croda’s portfolio to deliver future growth.

This repositioning is capturing new opportunities by refocusing the business away from maturing markets in order to capitalise on the future megatrends. In the consumer care market, sustainability is the biggest single driver over the next decade, accelerating the demand for sustainable ingredients. The life sciences market is being driven by the rise of biologics, complex molecules that are already transforming medicine and will transform agriculture over the next decade. Through our strategy implementation, including recent acquisitions and the successful divestment of most of our industrial business during 2022, we are responding to these megatrends, and becoming a pure play company focused on high value niches in Consumer Care and Life Sciences. This is creating a higher margin, higher return, less cyclical, more knowledge intensive, and lower carbon intensive business.

The divestment has also released capital to invest in scaling our consumer, pharma and crop care technologies. In line with our capital allocation policy, we are focused on reinvesting the proceeds in organic capital investment, leveraging the exciting growth opportunities in these markets. In 2022, we were pleased to agree co-investment programmes with the US and UK governments, recognising the importance of our pharma technologies to pandemic preparedness and drug discovery. Supporting our organic investment programme, we are continuing to explore opportunities in adjacent technologies that can further enhance our consumer and life science portfolio.

Alongside enhanced investment, we are also committed to providing regular, growing returns to shareholders. The Board has proposed an 8% increase in the full year ordinary dividend and will continue to monitor the Group’s ongoing capital requirements alongside any surplus capital, in line with our policy.

Delivering consistent outperformance
Croda continued its consistent outperformance in 2022, despite challenging economic conditions resulting from the conflict in Ukraine, energy crisis and supply chain inflation. For the first time, we have delivered over £2bn in sales and more than £500m in adjusted operating profit. This has reflected continued exciting growth across our Life Sciences sector, as well as our geographic footprint and broader portfolio in Consumer Care, providing a resilient platform. Importantly, we continued to invest, stepping up innovation with a focus on ‘big bet’ projects, and enhancing our leadership in sustainability, as customers look for sustainable alternatives that current suppliers cannot offer. Most important is that everyone within our business is kept safe; we maintained our behavioural safety performance in 2022 and, in 2023, have introduced safety improvement as a measure within the annual bonus scheme for the first time.

With our strong foundations, new horizons and consistent track record of outperformance, we look forward to the future with confidence.

Dame Anita Frew DBE, Chair

Agroforestry in the Amazon
The Croda Foundation is supporting an Instituto Amazonas agroforestry project, which aims to revive traditional agriculture practices among indigenous tribes, improving food security and protecting their cultural heritage and environment. Targeting six tribes in Mato Grosso in the Brazilian Amazonia, this project will reach approximately 7,400 people and will use education programmes to build confidence in traditional agricultural methods.
Chief Executive’s review

Powerful operating model and consistent execution deliver record performance

“"We are building a strong innovation pipeline, supplemented by new technologies and organic investment."" - Steve Foots, Group Chief Executive

Sales

£2,089.3m

(2021: £1,889.6m)

Croda achieved another milestone in 2022, exceeding £2 billion of sales and £500 million of adjusted operating profit for the first time. This continues our record of consistent execution. We successfully recovered significant input cost inflation, and navigated challenging economic conditions and continued supply chain disruption. We are building a strong innovation pipeline, supplemented by new technologies and organic investment. Our performance demonstrates the power of our business model, the benefit of our global footprint, greater resilience following recent portfolio change and the increasing importance of our products in a range of niche markets.

We delivered an 11% increase in both sales and adjusted profit before tax, with good sales and profit growth in both core sectors. Consumer Care delivered a solid performance, with sales up 18% and adjusted operating profit 9% higher, albeit with margin diluted by lower volume and change in product mix. Growth remained robust in the second half year across Asia, Europe and Latin America, partly offset by customer destocking that was particularly apparent in North America. Life Sciences built on an exceptional 2021, delivering 19% sales growth and 10% higher adjusted operating profit, despite a reduction in COVID-19 vaccine demand by our principal customers. The balance of the Pharma business, together with Crop Protection and Seed Enhancement, each delivered double digit percentage sales growth.

Adjusted operating profit was also higher in Industrial Specialties, benefitting from strong trading ahead of the divestment of the majority of its Performance Technologies and Industrial Chemicals (PTIC) business midway through the year. Through this divestment, and the acquisitions in recent years, Croda has significantly repositioned to be more closely aligned with the powerful megatrends that are reshaping our markets. We are becoming a pure play company, focused on high value niches in consumer care and life science markets. This is creating a stronger margin, higher return, less cyclical and lower carbon intensive business. We are also more knowledge intensive, with exciting customer and technology innovation pipelines, particularly in sustainable solutions and drug delivery systems. This will translate into more consistent top line growth and increased margins, delivering superior returns in the years ahead.

Managing a challenging environment

Group sales grew by 11% to £2,089.3m (2021: £1,889.6m). Constant currency sales rose by 5%, driven by our ability to recover input cost inflation, with price/mix up by 24%. The chemical industry experienced a significant impact from inflation and average prices within our raw material basket rose by 23% in 2022, adding to a 17% increase in 2021. Commodity markets remained tight during the year but prices peaked in the third quarter, with signs of modest declines as the year ended. Operating cost inflation increased during 2022, with labour and energy most impacted. The strength of Croda’s business model helped manage this challenging environment, ensuring inflation recovery and profit protection.

Group sales volume declined by 20%, with an estimated 13 percentage points of the reduction due to the divestment of much of the industrials business. In addition, after strong consumer demand and customer restocking post-pandemic in 2021, volume declined by 12% in Consumer Care, reflecting capacity constraints and customer reduction of excess inventory levels. Volume in Life Sciences was 8% higher, driven by strong Crop Protection demand, supported by the robust agricultural commodity pricing environment. Across the Group, the challenge of global supply chain constraints began to ease towards the end of the year.

Adjusted operating profit grew by 10% to £515.1m (2021: £468.6m). Over half of this increase was driven by underlying growth across all three sectors, with the balance primarily from favourable currency translation. Return on sales was broadly flat at 24.7% (2021: 24.8%), with an improved margin mix from the reduced share of industrial sales and a lower variable remuneration charge offset by normalisation of the Life Sciences margin, after an exceptional 2021, and a lower Consumer Care margin diluted by lower
volume and weaker mix. Profit before tax (on an IFRS basis) increased to £780.0m (2021: £411.5m), which included a gain on the business disposal of £356.0m. Adjusting for this benefit and one-off exceptional items outlined in the Finance Review, adjusted profit before tax increased by 11% to a record £496.1m (2021: £445.2m).

Inflation and supply chain challenges saw increased working capital during 2021 and the first half of 2022. As expected, this began to moderate in the second half of 2022. Free cash flow increased to £167.4m (2021: £153.6m). Net debt reduced to £295.2m (2021: £232.2m) and debt leverage reduced to 0.5x (2021: 1.4x), due principally to the proceeds from the PTIC divestment.

**Reinvesting in the business**

The Group successfully completed the divestment of the majority of its PTIC business to Cargill Inc. on 30 June 2022 for gross proceeds of £775m (£665m). The divestment agreement also included a £140m option to sell Croda Sipo in China in which we have a 65% stake; however, this was subject to reaching agreement with our partner to also sell its stake, which now appears unlikely to occur in the near-term.

The divestment has released more capital to invest into a rich seam of growth opportunities in the consumer care and life sciences markets, whilst maintaining our discipline of careful capital allocation to projects which generate superior returns on capital. Our priority is organic capital expenditure, supplemented by targeted acquisitions, in line with our preferred approach to ‘buy and build’, as exemplified by our recent investments in Life Sciences, where we have secured new technology platforms through modest acquisition spends, then built scale through organic investment.

Our investment in organic capital expenditure was £138.5m (2021: £158.5m). This investment included a new Fragrances and Flavours (F&F) operation in Brazil, expansion in protein technology in Consumer Care and new laboratory capabilities in Life Sciences, together with additional capacity in our Singapore plant and initial work on a new greenfield manufacturing site in India which will together meet fast growing demand in Asia. In addition to our typical capital investment of around 6% of sales, which includes delivering our carbon reduction roadmaps as part of our sustainability commitment, we are investing an extra £175m over the period 2021 to 2024 to broaden our Pharma footprint and capabilities, particularly for nucleic acid drugs.

We are investing in our existing GMP sites in Denmark, the UK and Avanti (US), and creating a new Pharma facility in Pennsylvania (US) to meet forecast market demand, with over £90m invested to date under this programme and spend expected to accelerate in 2023. Alongside this investment, the US and UK governments are co-investing up to an additional £75m, recognising the importance of new generation delivery systems to global pandemic preparedness and drug discovery. This investment will support our innovation pipeline of sales from new product development in the Pharma business.

We expect to supplement our organic plan with selective acquisitions to add adjacent and complementary technologies, particularly those which can accelerate our transition to greater use of natural raw materials or build new technology platforms, enhancing future growth. Shortly after year end, we announced an agreement to acquire Solus Biotech, a leading producer of premium, biotechnology-derived beauty actives based in South Korea. Solus consolidates our position as a global leader in sustainable actives, builds our biotech knowledge base, adds a North Asian manufacturing and innovation facility, and brings rich IP and proprietary know-how that we can leverage globally. Our continued 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. As part of this, the Board has recommended an increased full year declared dividend of 8% per share to 108.0p (2021: 100.0p).

**Strong performance in Asia, Western Europe and Latin America**

On a geographic basis, all regions saw continuing good growth in sales and profit, other than North America. Asia achieved a record year with strong demand, particularly in Life Sciences, and modest growth in China, despite pandemic lockdowns. Demand in Western Europe remained robust, despite higher prices and energy costs, with strong growth in Crop Protection and Beauty Care. Latin America enjoyed good growth, led by demand in the regional Crop Protection market and supported by Consumer Care demand, including the new F&F operation. EEMEA (Eastern Europe, Middle East and Africa) saw a negative financial impact from the closure of our Russia business (which represented approximately 1% of Group sales in 2021).

In North America, sales peaked in the first quarter before softening in Consumer Care and Pharma, the latter partly reflecting lower COVID-19 demand post-pandemic. Consumer Care was negatively impacted by significant customer destocking, with US customers particularly impacted by lower exports to China following lockdowns.

**Adjusted operating profit**

£515.1m
(2021: £468.6m)

**IFRS operating profit**

£444.7m
(2021: £438.2m)
Chief Executive’s review continued

Continued growth across sectors

Consumer Care performance demonstrating increased resilience

Consumer Care achieved record sales and adjusted operating profit in 2022. Sales grew by 18% to £897.8m (2021: £763.0m), with price/mix up 22% as significant inflation was successfully recovered. Adjusted operating profit increased by 9% to £204.7m (2021: £188.5m), resulting in return on sales reducing to 22.8% (2021: 24.7%). This primarily reflected the operating gearing effect of lower volume, alongside a weaker product mix as Beauty Care and F&F grew faster than the higher margin Beauty Actives business. IFRS operating profit declined to £144.5m (2021: £168.0m), which included an impairment charge of £34.6m on goodwill in the Flavours business, where the future value of this business is behind the acquisition case.

After a stand-out performance in Consumer Care in the first half of 2022, growth slowed in the second half year. Full year volume was 12% lower than 2021, driven by two components. Firstly, destocking developed across our customers and the retail supply chain. This followed strong demand in 2021 to meet the post-pandemic recovery, when customers, worried about global supply chain delays and meeting this recovery, restocked significantly; Personal Care sales grew by 20% in the second half of 2021. Slowing consumer sales led to destocking by customers in the second half of 2022, particularly in North America. Secondly, volume was lower due to selective demarketing of lower margin products due to capacity constraints in some Croda sites, together with the closure of our Russia office. It is estimated that customer destocking has accounted for five percentage points of the volume decline, with five points from demarketing and the balance from Russia and other impacts.

Our sector strategy is to Strengthen to Grow and delivery is progressing well, positioning Consumer Care as a more resilient growth platform. Our ingredient transparency programme is supporting a structural shift in behaviour by customers and consumers towards sustainable ingredients, providing product information dossiers and carbon footprint data that includes upstream supply chain emissions. The sector delivered an increase in bio-based ingredients to 56% (2021: 50%), greater use of biotech across the product portfolio and nearly 290,000 tonnes of avoided carbon emissions in 2022. Greater innovation is also being delivered as part of an enhanced formulation capability, with our new Formulation Academies minimising the customer’s time to market and giving smaller customers greater access to formulations containing Croda’s high performance ingredients. Consumer demand is growing strongly in Asia and, to deliver fast growth in the China domestic market, we have acquired a new site for a fragrance and botanicals facility.

Encouragingly, sales growth was strongest in Beauty Care and F&F. Beauty Care benefitted from strong pricing, good demand from multinational customers and the move to sustainable ingredients. With strong growth in solar protection for daily wear, Croda’s mineral sunscreens had a record year and sales of ECO bio-based surfactants to Personal Care customers increased threefold. In 2020 we added fragrances to Croda’s portfolio and 2022 saw the creation of a full formulation service for customers. Sales in fragrances recovered well, after a challenging 2021, with growth in emerging markets, benefits from the integration of 2021’s Parfex fine fragrance acquisition and a developing pipeline of sales synergies between Croda and Iberchem. Flavours suffered its worst year for raw materials, with 32% price inflation and shortage of supply, and margin was squeezed as the business did not fully recover input cost inflation. A quieter year for Beauty Actives sales nevertheless saw development into adjacent technologies continue, with the launch of encapsulated retinol and a growing pipeline of biotech-derived actives. The smaller Home Care business continued its roll out of high value proteins for fabric care, extending the life of clothes, with new contracts underpinning future growth.

Life Sciences building on exceptional prior year

Following an outstanding year for Life Sciences in 2021, with the rapid expansion of Croda Pharma following the Avanti acquisition and exceptional demand for COVID-19 vaccines, 2022 saw further strong progress, driven by an excellent performance in Crop Protection and an extensive pipeline of non-COVID delivery systems in Pharma.

Sales grew by 19% to £682.3m (2021: £572.3m) with performance strengthening in the second half of the year. Price/mix grew by 6%, while volume was 8% higher. Adjusted operating profit increased by 10% to £229.4m (2021: £208.5m), as did IFRS operating profit to £220.3m (2021: £201.0m). With Crop Protection a larger proportion of the sales mix and a normalising lipid systems margin, return on sales reduced to 33.6% (2021: 36.4%).
Our strategy to Expand to Grow in Life Sciences sees us empowering biologics delivery in Croda Pharma and reinforcing our existing leadership in sustainable delivery systems for Crop Care. In 2022, this saw the Health Care business repositioned as Croda Pharma, focused on technologies with the fastest growth and innovation needs. The relaunch was accompanied by a new brand, organisational structure and governance for its exciting customer and innovation pipelines. We are investing in innovation, knowledge and capacity, and secured co-investment from national governments. Crop Protection is meeting growing demand for sustainable crop care solutions and emerging delivery systems for crop biologics that are enabling customers to transition to biopesticides.

Encouragingly, 2022’s performance was achieved despite the anticipated near 40% decline in sales of lipid systems due to lower demand from our principal COVID-19 vaccine customers. The balance of the Pharma business, Crop Protection and Seed Enhancement all grew sales by double digit percentages. Crop Protection was the standout business, benefitting from a strong agricultural commodity pricing and demand environment. Its strength in sustainability was reflected in Croda’s recognition by Syngenta in its ‘Reduction in Carbon’ supplier award. Seed Enhancement’s range of coatings free from microplastics has now been proven in field trials with customers in all major regions and commercial roll out has commenced.

In Pharma, Protein/Small Molecule Delivery grew strongly, providing delivery systems for both the more mature small molecule drugs and the higher growth protein and monoclonal antibody (mAb) applications, with over a thousand customer projects underway. Adjuvant Systems experienced lower demand in COVID-19 applications, offset by growth in its current generation adjuvants, now supplied to over 100 customers, while supporting hundreds of projects to develop new prophylactic vaccines and novel therapeutic vaccines that fight already contracted diseases. These included a respiratory syncytial virus (RSV) vaccine in phase III trials and a personalised cancer vaccine in clinical phase II development.

The Nucleic Acid Delivery systems business is the world’s leading innovator of lipid and other components in this new field of drug treatment. The business is developing its portfolio from the blockbuster COVID-19 vaccines, which drove 2021 demand, to new mRNA and gene therapy vaccines, and therapeutic drugs. 2022 sales in this business were approximately US$170m (2021: $230m), a little ahead of expectations, mainly due to additional COVID-19 vaccine demand; sales outside the principal COVID-19 vaccine customers already represent almost 40% of this business and are expected to be the majority of the $120m sales forecast for 2023, as COVID-19 sales continue to decline. We are supplying delivery systems to customers for close to 100 nucleic acid drugs currently in development, including the world’s first human trial of a gene therapy application.

Industrial Specialties established
With the divesting of the majority of Croda’s PTIC business on 30 June 2022, the remaining industrials business, including the Sipo joint venture in China, has become the Industrial Specialties sector. It plays an important role in our manufacturing model, supporting the Consumer Care and Life Sciences sectors on shared sites and operating a medium-term supply contract to the new owner of the divested business. 2022 therefore comprised the full business in the first half year and the retained business in the second half year. Reported sales were £509.2m (2021: £554.3m) and adjusted operating profit was £81.0m (2021: £71.6m). It is estimated that, had the divestment occurred at the start of 2022, sales would have been £191m lower and adjusted operating profit £39m lower in 2022. Reported IFRS profit was £79.9m (2021: £69.2m). After a strong first half year pre-divestment, Industrial Specialties continued to perform well, benefitting from higher commodity prices, with second half sales of £167m and a return on sales of 12.3%.

Our Pharma business is developing delivery systems for biologic drugs which will enable the next generation of vaccines and therapeutics. Recognising the importance of our delivery systems for a wide range of nucleic acid applications, the US Government is supporting a capital expenditure programme, co-investing up to $75m to establish a lipid facility as part of a new multi-purpose cGMP site in Pennsylvania.
Chief Executive’s review continued

Delivering our strategy
We combine leadership in sustainability with market-leading innovation to deliver consistent top and bottom-line growth, with profit growing ahead of sales, ahead of volume in the medium-term. This is enabling us to help to meet global challenges and capture new opportunities.

Delivering our sustainability Commitment
Sustainability trends are developing rapidly in our markets as consumers look to make a positive contribution to living more sustainably through the products that they buy. In addition, climate change poses a major risk to the planet which we must all address. We enable customers to realise their sustainability ambitions through the application of our innovation, creating sustainable alternatives that current supply chains cannot offer. 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 strategy is built on 23 UN SDG targets grouped around the themes of climate, nature and society, supporting our commitment to be Climate, Land and People Positive by 2030.

To be Climate Positive, our verified carbon reduction target will ensure we contribute to limiting the global temperature rise to no more than 1.5°C above pre-industrial levels, providing customers with an average 35% reduction in carbon emissions associated with our products by 2030, compared to our 2018 baseline. To achieve this Science Based Target (SBT), we have developed externally validated decarbonisation roadmaps for every Croda location and adopted an internal carbon price to ensure investment decisions align with our sustainability ambitions. We have also continued our focus on upstream supply chains, with almost a quarter of suppliers by volume committed to SBT carbon reduction targets.

Building on our Land Positive commitment, we announced our aspiration to be Net Nature Positive by 2030 and are working to understand our impacts and dependencies on biodiversity. We also joined the World Business Council for Sustainable Development and its Nature programmes, with the aim of being an early adopter of the future Science Based Targets for Nature, when published.

Our People Positive objective addresses the needs of both our communities and our employees. Living our Purpose, Smart science to improve lives™, we have met our target to protect 60 million people from the damaging effects of the sun, seven years ahead of schedule. Additionally, the Croda Foundation distributed £1 million of funding to 13 projects and another £2 million of grants for health infrastructure projects in South Asia, Africa and Brazil, in total benefiting 15 million people. Our employee engagement surveys show that 71% of our people are motivated by our Purpose and 69% feel involved in delivering our sustainability ambitions. With a target to achieve gender balance in Croda leadership roles by 2030, 2022 saw women occupy 38% of these roles (2021: 36%). Reflecting our absolute commitment to be a safe company for our communities and our employees, we set a stronger safety target to reduce our Total Recordable Incident Rate (TRIR) to 0.3 by 2025, requiring us to more than halve our current rate of 0.74 (2021: 0.76 restated), excluding COVID-19 cases. We conducted a safety culture survey at more than 40 sites, enabling us to identify areas for particular focus.

We have reflected the impact of the PTIC divestment in our sustainability targets. Scope 1 and 2 emissions reduced by 26% as a result of the sale and we have re-baselined our target to maintain the original challenge. The proportion of bio-based organic raw materials reduced to 59% due to the disposal (2021: 69%) but we have retained our original target to achieve 75% by 2030. We have also retained our carbon cover target (where use of our products avoids four times the carbon emissions associated with operating our business) which becomes more stretching as a result of the divestment.

Driving innovation
Innovation is at the heart of what we do, creating new market and technology niches. We have stepped up our rate of innovation through more resource investment, more external partnerships and a focus on ‘big bet’ projects. This will support higher growth, improved mix and better margin as we become a more knowledge-intensive company, capturing more intellectual property (IP).

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. This is complemented by our open innovation network, which provides access to over 500 universities and SMEs to help develop new intellectual property. We also invest externally in disruptive technologies, the benefits of which can be seen in recent product launches that have leveraged expertise in both biotech and encapsulation to reduce impacts and improve efficacy.

Our ‘big bet’ projects are reinforcing our leadership in formulation science and harnessing the potential of biotech, alongside our conventional chemical
Supporting our strategic themes of ‘Strengthen to Grow Consumer Care’, ‘Expand to Grow Life Sciences’ and ‘Scaling Biotech’, as set out above, are three additional strategic initiatives:

‘Fast Grow Asia’, where we are expanding our technical capabilities and building new manufacturing capacity, to serve rising regional consumption of Consumer Care products and growing opportunities in Pharma and Crop Care. Investment in innovation and sales resource helped deliver a record year for Asia. We are continuing to expand our manufacturing capability in Asia, including commencing construction of a new greenfield site in India, to support the exciting opportunities ahead;’

‘Proactive Acquisitions’, where our global scouting network is identifying potential adjacent technology opportunities in Consumer Care and Life Sciences, such as the Solus Biotech acquisition announced in February 2023; and

‘Doing the Basics Brilliantly’, which is improving our customer and employee experience through a combination of digital technology, customer insights, new data architectures, enhanced manufacturing capability and employer branding, 2022 saw good results in our customer ‘Net Promoter Score’ (NPS) and a new customer self-serve ordering online portal developed for global roll-out.

Outlook

Though early in the year, the Group is trading in line with expectations. We expect the customer destocking that has been particularly apparent in North America to come to an end in the first half year, supporting continued sales growth this year in Consumer Care. In Life Sciences, we expect good sales growth in Crop Care and the non-COVID related Pharma business to offset the previously indicated decline in COVID-19 vaccine demand. Group performance in 2023 will be more second half weighted than in the prior year, reflecting the divestment of the majority of PTIC in June 2022 and the phasing of lipid systems shipments to our principal COVID-19 vaccine customers.

The combination of our differentiated business model, enhanced investment programme and exciting innovation pipelines in sustainable ingredients and drug delivery, will continue to deliver consistent, superior returns.

Steve Foots, Group Chief Executive

69% of employees feel involved in delivering our sustainability strategy

The Strategic Report was approved by the Board on 27th February 2023 and signed on its behalf by Steve Foots.
Purpose
A Purpose-led company

Smart science to improve lives™
Why we exist

Our Commitment
What we will achieve
Our Commitment is to be Climate, Land and People Positive by 2030 which will ensure we achieve our mission of being the world’s most sustainable supplier of innovative ingredients. Through this we will help provide solutions to some of the world’s biggest challenges.

Delivered through our strategy
Our strategy sets out the approach we are taking to deliver our Purpose. By combining sustainability and innovation to deliver growth, our smart science helps our customers to satisfy consumer needs and deliver on their own sustainability commitments, while we achieve our own.

Integrated into our risks and opportunities framework
Our risk appetite is guided by our Purpose. We are willing to accept more risk where doing so is integral to delivering our Purpose. By contrast, our appetite is low where the risk is contrary to our values and culture.

Governed by our Board
The Board oversees robust governance processes to ensure our Purpose is embedded throughout Croda and guides the strategic choices we make.

Reflected in remuneration
Our Purpose is reflected in our Remuneration Policy through targets aligned with sustainability and innovation, and a discretion framework that ensures performance is not to the detriment of our values.

For more information on our governance approach
See pages 84-85

For more information on our remuneration
See pages 108-110

For more information on risk
See pages 52-58

For more information on our strategy
See pages 22-23

Our Values-led culture
How we work every day
Our distinctive values-led culture governs how we work and guides our relationships with our partners. Our shared values of ‘Responsible’, ‘Innovative’ and ‘Together’ focus our work to ensure our smart science helps to improve lives.

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

For more information on our people and culture
See pages 20-21

For more information on risk
See pages 52-58

For more information on our governance approach
See pages 84-85

For more information on our remuneration
See pages 108-110
At Croda, our Purpose is to use Smart science to improve lives™. We combine our knowledge, passion and entrepreneurial spirit to create, make and sell innovative ingredients that are relied on by industries and consumers around the world. We improve people’s lives every day by helping to:

- Prevent, treat and potentially cure diseases through the development of drug delivery systems
- Improve more lives through the Croda Foundation which is funding 21 projects in 19 countries with 14.9 million beneficiaries
- Enhance crop yields, enable land savings and improve food security through the development of crop care technologies
- Preserve the planet’s scarce resources through the delivery of our sustainability Commitment
- Promote the hygiene, health, wellbeing and confidence of consumers through the creation of Consumer Care ingredients
Strength in our foundations

Business model
How we create value

What our business needs
- Employees
- Raw materials
- Sites, assets and infrastructure
- Capital
- R&D
- Supply chain and logistics
- Energy
- Regulations

Our sustainability Commitment
- Climate Positive
- Land Positive
- People Positive

Our competitive advantages
- ‘One Croda’ culture
- Customer intimacy
- Innovation leadership
- Sustainability leadership
- Our approach to growth

What we do
Engage

Smart science to improve lives™

Create

Sell

Make

The solutions we provide

Consumer Care

Pharma

Crop Care

Delivering value

Our stakeholders

Environment

Society

Employees
100% of employees receive at least the living wage

Customers and consumers
>17,000 customers benefit from our innovative and sustainable ingredients

Suppliers
45% of raw material volumes from suppliers with public commitments to carbon reduction

Innovation partners
>500 innovation partners working collaboratively to advance science

Shareholders
>30 year track record of unbroken dividend growth

Communities
5,336 hours donated by employees through our 1% club

NGOs
89% of global palm derivatives consumption was RSPO physically certified

For more information on Crop Care See pages 32-33

For more information on Consumer Care See pages 28-29

For more information on Pharma See pages 30-31

For more information on our Commitment See pages 48-49
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 sells small, but valuable, quantities of ingredients to customers of all sizes. These ingredients deliver vital functionality at low inclusion levels, giving us a strong competitive advantage.

The solutions we provide

We operate globally, with a focus on high-value niches in consumer care and life sciences markets.

**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.

**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.

**Crop Care**

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.

In each of these markets, the move to sustainable ingredients and the move to biologics are driving future growth.

For more information about technology megatrends

See page 26

Our sustainability commitment

**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 avoided emissions in use that our technologies can bring, will help them deliver on their climate targets.

For more information on our Climate Positive commitment see our Sustainability Report

Pages 22-27

**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 net zero – 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 be Net Nature Positive by 2030.

For more information on our Land Positive commitment see our Sustainability Report

Pages 28-31

**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 brings to our organisation and are progressing well against our ambitious targets to make a positive difference.

For more information on our People Positive commitment see our Sustainability Report

Pages 32-35

Engage

We employ our own sales team rather than using distributors, enabling us to build close partnerships with customers and to be proactive when demands start to change.

Create

We design innovative ingredients that deliver vital functionality to customer formulations.

Sell

We sell and deliver ingredients directly to our customers using local warehouses for speed and flexibility.

Make

We produce ingredients to consistently high standards and are transforming how we manufacture to meet our sustainability Commitment and support customers in meeting theirs.
What our business needs

Employees
We employ 5,825 people and employee costs are ~19% of sales. We commercialise people’s knowledge, which is key to delivering a high return on sales. We have a growing global employee base, with an increasing proportion of employees in science-based roles and improving workforce diversity.

Raw materials
Raw material costs are ~35% of sales. We use a broad basket of raw materials, which are mostly bio-based rather than petrochemical-derived, including grown commodities and natural oils. We successfully manage the impact of cost inflation through pricing.

Sites, assets and infrastructure
We invest ~6% of sales in capital expenditure each year to maintain, develop and decarbonise our sites, assets and infrastructure. This is lower than most peers as we manufacture comparatively low volumes. We are currently augmenting this with targeted organic investment to scale up our pharmaceutical technology platforms.

Capital
Our capital needs are serviced principally by loans and credit facilities including a green banking facility. Our leverage ratio of 0.5x net debt to EBITDA is below our target range of 1-2x over the medium-term cycle, allowing future investment, both organic and through acquisitions.

R&D
We spent £66m in 2022 on in-house innovation. This is complemented by a pipeline of technology acquisitions and over 500 open innovation partners. These partnerships are important to our business model as they facilitate collaboration with leading scientists in universities and SMEs and give us access to specialist, world class expertise and facilities.

Supply chain and logistics
We have a global network of local warehouses around the world ensuring we can deliver ingredients directly to customers with speed and agility. Despite recent global supply chain challenges, our focus on high value, low volume niches and successful supply chain management means we have avoided significant disruption, beyond escalating freight costs which are a small proportion of our costs.

Energy
Energy costs are ~3% of sales. We use heat to accelerate chemical reactions with energy provided from a variety of internal and external sources. Energy is a relatively small percentage of our cost base compared with others in our sector and we have limited direct exposure to potential gas disruption in Europe.

Regulations
All regions where we operate have regulations that apply to the ingredients we produce and the applications they are used for. Correctly scoped regulation builds confidence in the efficacy of our products and we actively shape regulations and voluntary standards, working collaboratively with industry partners.

Multi-sector R&D facility at Cowick Hall, United Kingdom.

Manufacturing capability at our Beauty Actives site in Le Perray-en-Yvelines, France.
Our competitive advantages

‘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 which encourages everyone to work together to achieve our goals. We strive to be more agile and entrepreneurial than our competitors, with a decentralised operating model that ensures decisions are made ‘close to customers’.

Customer intimacy
We employ our own local, science-focused sales force who understand our customers. This is unusual in our markets where sales are often through distributors. This direct selling model builds relationships with customers and provides us with insights about their challenges, as well as changing consumer behaviour, that are key to how we innovate. We complement direct selling with local innovation centres where we co-formulate with customers in our laboratories and accelerate their time-to-market.

Innovation leadership
We are the leading innovator in our markets with a technology portfolio differentiated by valuable protected intellectual property and know-how, including 1,500 patents across 250 patent families. This means our ingredients have unique characteristics and deliver higher value add. We have a collaborative, open innovation model which combines internal R&D with partnering and technology acquisitions. We are becoming a more knowledge-intensive company as a result of this innovation ecosystem and our recent acquisitions.

Sustainability leadership
We were founded in 1925 to create lanolin from wool grease, a by-product of the textile industry, and have been building sustainability into our business ever since. Now, we have a long-term sustainability strategy embedded 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 determined to make a positive impact through the products they buy, the creation of sustainable ingredients is a key driver of our future commercial success.

Our approach to growth
We grow by creating new market and technology niches rather than by winning market share in large established markets. We target fast-growth niches that value our leadership in innovation and sustainability through higher margins. This allows us to compete on value rather than on price, supporting our goal of delivering profit growth, ahead of sales growth, ahead of volume growth.

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. This high number of customer/product combinations reduces our exposure to any specific customer, market or geography.

We sell in test tube and vial quantities, rather than tanker loads, and are increasingly moving to selling in dollars per gram rather than dollars per kilo. This means we operate flexible, capital-light manufacturing sites, rather than large continuous operation plants, and do not have to invest significant capital to create value.

For more information on our investor proposition
See page 43

Sensory testing with consumer panellists in Singapore.

The solutions we provide enhance everyday life.
## Stakeholder engagement

### Creating value for all stakeholders

<table>
<thead>
<tr>
<th>Employees</th>
<th>Customers and consumers</th>
<th>Suppliers</th>
<th>Innovation partners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The value we create</strong></td>
<td>All our employees and contractors globally receive at least the living wage. They work in an open and inclusive environment where we are committed to full gender balance in leadership roles.</td>
<td>We deliver around 6,000 specialty ingredients to over 17,000 customers worldwide. Our customers use our ingredients to differentiate their products, ensuring they meet consumers’ requirements.</td>
<td>We partner with suppliers to improve sustainability practices in supply chains and commit to sharing the benefits equitably. Our commitment to positive impact sourcing is enabled by supply chain mapping, certification and transparency.</td>
</tr>
</tbody>
</table>
| **What matters to them** | • Reliability of supply and product quality  
• Technical and regulatory support  
• Innovative and sustainable ingredients that improve performance  
• Engaged and responsive sales teams | • An open relationship  
• Fair payment practices  
• Support in understanding our requirements around supply chain transparency, ethics and human rights  
• Sustainability expertise to help improve their impact | • Scientific expertise  
• Collaborative working  
• Funding and recognition that successful breakthroughs can bring  
• Ensuring a positive impact through sustainable innovation |
| **How we engage** | • Research, sales and marketing teams work closely with customers’ R&D, purchasing, regulatory and sustainability teams  
• Face-to-face meetings, attending industry events, inviting customers to our seminars, workshops and application labs | • Suppliers assessed through EcoVadis with actions agreed to improve sustainability performance  
• Procurement teams meet regularly with suppliers face-to-face  
• Participation in trade shows and industry events globally | • Student sponsorships at leading universities  
• Directly with SMEs to lend experience and capability in commercialising new technology  
• Directly with customers to overcome their challenges |
| **Topics of engagement and activities in 2022** | • Increased engagement with customers following pandemic restrictions  
• Conducted annual customer survey with >3,300 responses. Satisfaction levels maintained despite challenging operating conditions  
• General engagement topics included innovation, investment in manufacturing capacity and flagship projects to enhance customer service | • Securing raw materials in a challenging market  
• Supplier Code of Conduct updated encompassing sustainability principles and requirements  
• Product carbon footprint methodology to enable measurement of carbon reduction  
• Gaining greater transparency throughout palm oil derivatives supply chains | • Sustainable innovation  
• Biotechnology and harnessing nature  
• Green chemistry and new sustainable process technologies  
• New acquisition, licensing and commercial partnerships to scale and globalise new technologies |

### Employees
- A safe working environment without exposure to unnecessary risks
- An employer who takes their wellbeing seriously
- Rewarding and engaging careers with a positive impact
- An inclusive environment

### Customers and consumers
- Reliability of supply and product quality
- Technical and regulatory support
- Innovative and sustainable ingredients that improve performance
- Engaged and responsive sales teams

### Suppliers
- An open relationship
- Fair payment practices
- Support in understanding our requirements around supply chain transparency, ethics and human rights
- Sustainability expertise to help improve their impact

### Innovation partners
- Scientific expertise
- Collaborative working
- Funding and recognition that successful breakthroughs can bring
- Ensuring a positive impact through sustainable innovation

### What matters to them
- Security of supply and protection from short-term market volatility
- Technical and regulatory support
- Sustainability expertise to help improve their impact
- Product carbon footprint methodology to enable measurement of carbon reduction
- Gaining greater transparency throughout palm oil derivatives supply chains

### How we engage
- Global emails, intranet news, regular global newsletters, webinars, podcasts, culture surveys, town halls and listening groups
- Informal networks, cascade meetings, works councils and consultation committees
- Suppliers assessed through EcoVadis with actions agreed to improve sustainability performance
- Procurement teams meet regularly with suppliers face-to-face
- Participation in trade shows and industry events globally

### Topics of engagement and activities in 2022
- Cost-of-living crisis and supporting employees, including one-off payments benefitting our lower paid employees the most
- PTIC separation activities
- Safety and inclusive behaviours
- Our Purpose and sustainability commitment
- Increased engagement with customers following pandemic restrictions
- Conducted annual customer survey with >3,300 responses. Satisfaction levels maintained despite challenging operating conditions
- General engagement topics included innovation, investment in manufacturing capacity and flagship projects to enhance customer service
- Securing raw materials in a challenging market
- Supplier Code of Conduct updated encompassing sustainability principles and requirements
- Product carbon footprint methodology to enable measurement of carbon reduction
- Gaining greater transparency throughout palm oil derivatives supply chains
- Sustainable innovation
- Biotechnology and harnessing nature
- Green chemistry and new sustainable process technologies
- New acquisition, licensing and commercial partnerships to scale and globalise new technologies
With a focus on consistent top and bottom-line growth, we deliver strong returns to shareholders through a balance of earnings growth and dividend growth.

We support local communities through educational outreach and provide access to our smart science through the Croda Foundation.

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).

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 18 to 19 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.

- Effective governance and appropriate controls
- Ethical culture considering our impact on all stakeholders
- Successful delivery against our strategy and sustainability commitments
- Consistent long-term growth

- A responsible neighbour operating safely and sustainably
- A positive contributor to the local community

- Industry engagement and sufficient dedication of time and resources to ensure practical outcomes for new and existing regulatory challenges and issues
- Businesses taking responsibility for their impacts

- Results presentations, investor roadshows, attendance at conferences, investor seminars, site visits, ad-hoc meetings and the AGM
- Meetings on governance topics, such as remuneration

- Outreach activities, volunteering and supporting local charities through our 1% Club
- Community liaison groups, on-site meetings and open days
- Maintaining open dialogue with local officials and emergency services

- Membership of national and international industry associations
- Industry working groups
- Task forces for specific ad-hoc activities, topics and issues
- Engagement with regulators directly and via industry associations

- Hosted investor seminars on Consumer Care sector and Pharma business
- Hosted multiple site visits, including to Iberchem, Spain
- Over 1,000 investors met with topics of engagement including the impact of inflation, sustainability and the PTIC divestment
- Corporate governance lunch hosted by Chair, Senior Independent Director and Remuneration Committee Chair

- 13 Croda Foundation projects investing £1.1m in local communities with the greatest need
- Outreach in North America to support increasing employability of under-represented local communities
- Emergency preparedness drills and safety engagement

- Advancing the science of alternatives to animal testing
- Appropriate risk management measures for chemicals

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:

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Shareholders

Communities

NGOs
### People and culture

#### Unlocking potential

#### Our culture

Our people strategy is focused on delivering our Purpose, further strengthening our culture and creating inclusive and engaging environments for all. We believe that embedding our values throughout the organisation will enable us to attract and retain the best talent, unlock our people’s full potential and deliver high performance and engagement within our teams.

Our culture is defined through our values of ‘Responsible’, ‘Innovative’ and ‘Together’ and in 2021 a set of 14 competencies were introduced describing how our values are exhibited and can be developed through specific behaviours within our work.

These competencies are used as part of our annual performance and development reviews, succession planning and talent processes. They are also used as selection criteria for promotion and participation in our global development programmes.

All of our new competencies encompass inclusive behaviours with one dedicated to inclusivity. We are making progress implementing our Diversity & Inclusion (D&I) Roadmap which covers data gathering, improving awareness, developing our brand, measurement, and alignment to reward. In 2022, we promoted awareness through new development programmes and improved our data gathering through better measurement of employee engagement.

#### Measuring our culture

To measure employee engagement and commitment to our Purpose and sustainability goals, we introduced surveys in 2022 to define a Purpose and Sustainability Commitment (PSC) score.

While the overall score of 68% was good, the survey identified focus areas where there is further work to do to build the best workplace for all.

We intend to measure our PSC score over several years to track our progress in creating a positive environment for our employees and to understand how we can further improve employee engagement. This score will be reported in our Annual Report and, for 2023, improvement in the PSC score will be a metric within our long-term incentive plan (see pages 108-110).

#### Our 2022 culture surveys

<table>
<thead>
<tr>
<th>Topic</th>
<th>Quarterly theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey 1</td>
<td>Safety, health and environment</td>
</tr>
<tr>
<td>Survey 2</td>
<td>Our Purpose</td>
</tr>
<tr>
<td>Survey 3</td>
<td>Our values</td>
</tr>
<tr>
<td>Survey 4</td>
<td>Our sustainability Commitment</td>
</tr>
</tbody>
</table>

| As part of our ‘One Croda’ culture we have prioritised supporting our employees through the global cost of living crisis. |

<table>
<thead>
<tr>
<th>Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Responsible</strong></td>
</tr>
<tr>
<td>• Authenticity</td>
</tr>
<tr>
<td>• Cross cultural sensitivity</td>
</tr>
<tr>
<td>• Inclusivity</td>
</tr>
<tr>
<td>• Living the values</td>
</tr>
<tr>
<td><strong>Innovative</strong></td>
</tr>
<tr>
<td>• Curiosity</td>
</tr>
<tr>
<td>• Strategic perspective</td>
</tr>
<tr>
<td>• Adaptability</td>
</tr>
<tr>
<td>• Delivery</td>
</tr>
<tr>
<td><strong>Together</strong></td>
</tr>
<tr>
<td>• Working together</td>
</tr>
<tr>
<td>• Empathy</td>
</tr>
<tr>
<td>• Care and compassion</td>
</tr>
<tr>
<td>• Managing conflict</td>
</tr>
</tbody>
</table>

#### Purpose and Sustainability Commitment score for 2022

Our overall PSC score for 2022 was 68%, with an average participation rate for the surveys of 77%. The PSC score is a measure of employee satisfaction using a five point scoring methodology. As many of our employees work shifts in production environments, we made the surveys as accessible as possible. Every survey was translated into 16 different languages and could be completed online, via a QR code on mobile devices, or on paper copies. Surveys were completed anonymously with only basic personal data collected to aid understanding.

Results were shared with local and regional teams to develop tailored site plans to address specific opportunities for improvement. Many local management teams ran listening groups to gain further insight and greater understanding.

Our PSC score reflects responses across the five point scoring criteria and is the median response given, with the lowest score for any of the questions we asked being 53% and the highest 80%.

We consider our score in 2022 to be ‘good’, however, recognise there is further work to do to ensure we continue to build the best workplace for all. Key insights from our 2022 surveys are shown below.

| 74% of employees would recommend Croda as a great place to work | 71% of employees feel motivated by our Purpose |
| 74% of employees would agree that SHE is not compromised | 69% of employees feel they can get involved in sustainability |

To read more on how we are supporting our people through the current cost-of-living crisisSee pages 102-105
Recruitment, development and retention of talent
We continue our transition to a pure play Consumer Care and Life Sciences business and are focused on attracting and retaining talent capable of supporting our growth. Using our competency framework, we have progressed several projects to further embed our Purpose and values into our processes for recruiting and developing people.

To support our recruitment process, we worked in partnership with an external agency to integrate our competencies into their Occupational Personality Questionnaire (OPQ). This will improve hiring decisions, helping to recruit people whose behaviours align with our values and culture.

Our global leadership development programmes were relaunched in 2022. We recognise that having an inclusive culture is the only way that diversity can thrive, and embedding our values to develop and reward inclusive leadership starts with the way we select attendees for our global leadership programmes. We select colleagues who exhibit model behaviours aligned with our values and use the programmes to develop them further, with content tailored to our strategic objectives through the competency model.

Our development programmes

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

LDG* Plus – For established senior colleagues in key roles, who may have completed a past version of the LDG.

LDG – High performing, high potential senior colleagues.

Accelerated Leadership Programme – High performing mid-level employees showing leadership behaviours.

Leading with Purpose – A values aligned development programme available to all grades.

Behavioural safety
Ensuring the safety of our people is of the utmost importance and despite the lack of progress in our Total Recordable Injury Rate during 2022, we are committed to improvements. In the second quarter of 2022, our senior leadership conference focused on safety, aiming to drive cultural change and a values-driven approach to health and safety, with all leaders signing up to personal safety development objectives which will form part of the senior annual Bonus Plan in 2023. A Safety Culture Survey was conducted in 2022 at over 40 Croda sites, with engagement levels of over 85%, enabling us to identify sites and processes for particular focus as we continue to improve our health and safety performance.

The ‘Human Performance Programme’ developed in 2021 was rolled out to six sites, creating opportunities for meaningful conversations about how work is carried out, the real risks people face, and empowering all employees to take ownership of safety and suggest improvements. In 2022, more than 100 improvements were identified across these six sites and resources are being allocated to enable a roll out to all sites over the next three years.

Key people metrics

Employee employment status

<table>
<thead>
<tr>
<th>Permanent employees</th>
<th>Temporary employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>96.3%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

Employee contract type

<table>
<thead>
<tr>
<th>Full time employees</th>
<th>Part time employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>95.3%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Employee age category

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-25</td>
<td>6.4%</td>
</tr>
<tr>
<td>26-35</td>
<td>30.4%</td>
</tr>
<tr>
<td>36-45</td>
<td>29.9%</td>
</tr>
<tr>
<td>46-55</td>
<td>23.2%</td>
</tr>
<tr>
<td>56-65</td>
<td>9.8%</td>
</tr>
<tr>
<td>65+</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Retaining talent is important to us and we track voluntary employee turnover on a quarterly basis. Our voluntary employee turnover rate for 2022 was 8.5% (2021: 8.2%). We are comfortable that our continued focus on Purpose and culture will support our ambition to be an employer of choice, and that this will be reflected in below average voluntary turnover figures.

For more Board and Group diversity data See page 95

Scan this QR code to watch more on the Accelerated Leadership Programme which launched in 2022.

* Leadership Development Group
Strategy

Sustainability + Innovation = Growth

Our strategy

Our strategy is to combine leadership in sustainability with market-leading innovation to deliver consistent top and bottom-line growth, with profit growing ahead of sales, ahead of volume. This enables us to help to meet global challenges and capture new opportunities.

Sustainability

Consumers globally are looking to play their part in living more sustainably through the products that they buy. We enable customers to meet their sustainability goals through the sustainable benefits in use of our innovation and by improving the impact of our operations and supply chains. This includes removing fossil based ingredients, reducing emissions, restoring biodiversity and ensuring transparency through our supply chains. Our restorative sustainability strategy is built on 23 UN SDG targets, grouped around the themes of climate, nature and society, hence our commitment to be Climate, Land and People Positive by 2030 (see page 15).

Innovation

We grow by creating new market and technology niches, so our success is dependent on our ability to deliver innovative solutions to customers. The foundation of our innovation model is internal R&D investment, applying the expertise of our scientists to meet customer needs. This is complemented by our open innovation network, providing access to over 500 universities and SMEs to help develop new intellectual property. In addition, we look to acquire technologies with disruptive potential that can be scaled through organic investment, further bolstering our innovation pipeline.
Group strategy

Sustainability

Strategic progress in 2022:

- Completed externally validated decarbonisation roadmaps for every Croda location, enabling us to prioritise key projects that will deliver our 1.5°C aligned Science Based Target
- 88% of our greenhouse gas emissions are embedded in our upstream supply chain. We therefore continued to engage upstream and key suppliers representing 24% of our raw material volumes are publicly committed to SBTi carbon reduction targets
- Our Internal Carbon Price (ICP) increased from £55/TCO₂e to £124/TCO₂e further aligning our investment decisions with our sustainability ambitions
- Building on our Land Positive commitment, we announced our aspiration to be Net Nature Positive by 2030
- We met our 2030 target to protect 60 million lives from the damaging effects of the sun, seven years ahead of schedule

Priorities in 2023:

- Maintain alignment with our Science Based Target trajectory, by investing in the key decarbonisation projects arising from the roadmaps in place for all sites
- Achieve limited assurance of our climate-related data in non-financial reporting
- Conclude our work understanding our impacts and dependencies on nature and biodiversity
- Initiate work on a ‘Sustainability Academy’ to ensure we have identified and can train employees in the skills and competencies necessary throughout the business to deliver on our sustainability commitments

Innovation

Strategic progress in 2022:

- Focused on big bet projects harnessing the potential of biotechnology, alongside our traditional chemical technologies
- Driven greater collaboration between biotechnology laboratories, leveraging cross sector expertise to advance innovation
- Continued work to develop new products with a high bio-based content, while also increasing the bio-based content of existing products
- Enabled customers to understand and improve the biodegradability profile of new and existing products through investment in technical capability
- launched formulation academies to share our expertise with customers, reinforcing our position as an innovation leader

Priorities in 2023:

- Continue to strengthen our innovation capability across core technology platforms including sustainable surfactants
- Broaden ongoing activity within open innovation programmes, accelerating the discovery of new technology platforms
- Build on the successful technical engagement in 2022, collaborating with customers to deepen our technical relationship
- Invest in our innovation infrastructure at strategic locations, particularly in Asia

Sector strategies

Strengthen Consumer Care:

- Innovate for sustainable ingredients
- Expand our full formulation capabilities
- Deliver on Iberchem sales synergies

Expand Life Sciences:

- Expand range of technologies in Pharma
- Scale up operations across Pharma platforms
- Accelerate the development of biopesticides in Crop

Fast grow Asia:

- Solus Biotech integration
- Investing in technical capability
- Expanding local sales teams

Scale Biotech:

- Leveraging recent acquisitions for early stage research
- New application laboratories for scale-up
- Focused investment on niche innovation

Proactive M&A:

- ‘Chief Scouts’ appointed
- Targeting knowledge-rich businesses
- For subsequent geographic expansion and scale-up

Doing the basics brilliantly:

- Improving the customer experience through insight
- More digital connectivity
- Self-serve data for customers
Megatrends

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. Our Commitment to be Climate, Land and People Positive by 2030 is founded on the UN SDGs, ensuring Croda delivers a positive impact.

The following section details the global challenges we face, the technology trends affecting our markets and the opportunities for Croda.
The global challenges:

Living sustainably within our planetary boundaries
Population growth and increasing consumption, fuelled by the expansion of the middle class with increased disposable income in the developing world, are putting pressure on planetary systems, such as water, climate, biodiversity, and scarce natural resources. Addressing this challenge requires transformational new approaches to consumption and circularity. For example, not only does society need to transition to carbon net zero, it needs to do so by embracing the role nature plays in mitigating and adapting to climate change, and by addressing social inequalities. Consumers in developed markets, and increasingly in China and around the world, are supporting businesses they believe act responsibly. This includes understanding societal challenges, protecting and restoring nature, and providing solutions to mitigate the causes and adapt to the impacts of a changing climate.

Global demand for health and wellbeing
The pandemic has laid bare public health challenges around the world and accelerated the demand for health care, already growing due to higher global population, rising malnutrition and an ageing population in developed countries. Following two years of lockdowns, consumers are much more conscious of their own physical and mental wellbeing, and the importance of healthier communities more broadly. This has increased the focus on the efficacy of products, with increased demand for ingredients that are underpinned by science, and that support physical and mental health.

Feeding a growing population and restoring nature
The world population passed eight billion in 2022 and is expected to reach nearly ten billion by 2050 with the majority of the increase coming in south and east Asia, and Africa. Feeding this growing population will require a 70% increase in agricultural output by 2050, and the challenge is achieving this in a sustainable, regenerative way. Agriculture has undergone yield-enhancing shifts in the past but yields of important crops such as rice and wheat have now stopped rising in some intensively farmed parts of the world. Agricultural soils have been over-used and over-exposed to chemical fertilisers, destroying their vitality and threatening the food security of 3.2 billion people, especially smallholder farmers and poor rural communities. Since most suitable land is already farmed, most of this growth will come from higher yields and more resilient crops in less suitable land, supported by restoring degraded ecosystems.

World population of 10bn projected by 2050 (2022: 8bn)
Increase in food output of 70% required by 2050

The enabler:

Digitalisation facilitating faster, more connected supply chains
Digital is changing expectations about transparency, with consumers demanding businesses take responsibility for their own operations, their supply chains and their products at end of life.

Digital is also increasing the speed at which new trends are adopted, enabling businesses to deliver transformative solutions from wherever they are conceived. Successful products are those which are innovative, highly effective, low impact, sustainably sourced, and clearly labelled.

1. United Nations, World Population Prospects 2022
2. Food and Agriculture Organization of the United Nations, Global agriculture towards 2050
3. The Global Environment Facility, Land Degradation

For more information on the trends in our markets as a result of these challenges See page 26
The technology trends affecting our markets

1. Move to sustainable ingredients

Consumers want to live more sustainably and this is impacting their decisions when it comes to the products that they buy. Generational shifts are accelerating these trends with an increasing number of consumers willing to pay more for purpose-led brands that meet their specific values. Sustainability will be the biggest single driver of consumer markets over the next decade and beyond.

Consumer-facing companies need to enhance consumer trust in their brands, so are looking for ingredients that enable them to deliver products with proven, substantiated claims and transparent, assured information on their social and environmental footprints. Sustainable ingredients must have a low footprint in terms of the carbon, water and resources used in their manufacture, and should also contribute to enabling consumers to live more sustainably.

Growing consumer demand for sustainable ingredients is driving increased regulation by industry and national authorities. For example, there are now very few countries in the world without cosmetic legislation and an increasing number of countries also have chemical regulations in place, with many more set to adopt chemical legislation in the coming years. Increasingly widespread and thorough legislation is providing a higher threshold for approval for new ingredients while increasing consumer confidence about the footprint and sustainability benefits of the products they buy.

The move to sustainable ingredients is not confined to consumer markets. Not only do crop science companies want biodegradable ingredients with a low carbon footprint, they also need innovative ingredients that make a positive contribution to improving yields, soil health and biodiversity.

Alongside more sustainable chemistry, biotechnology can be a highly sustainable route for creating new and existing molecules that have applications in high growth markets of today and the future. Designed correctly, biotechnology will enable ongoing performance innovation, facilitate ingredient footprint reduction, and support the transformation to bio-based ingredients.

2. Move to biologics

In Life Sciences, the 20th century was the era of the small molecule, relatively simple compounds made by chemical synthesis. The 21st century is the era of biologics, much larger molecules manufactured inside animal cells or micro-organisms, that are already transforming medicine and will transform agriculture over the next decade.

Biologic drugs mimic closely our body’s biology and are much better at treating disease in a targeted way with fewer side effects. But they are complex molecules that are hard to make, difficult to keep stable, and need sophisticated delivery systems. They are also difficult to administer and are normally injected because otherwise they would be destroyed by stomach acid when swallowed.

The nucleic acid revolution that we are now witnessing, best illustrated by the global roll out of mRNA vaccines for COVID-19, is the next phase in the move to biologics. It is creating an incredible number of opportunities because nucleic acids teach the body to create its own medicine. This is a fundamental shift in the complexity of new drugs and in their value – both in terms of patient outcomes and commercial opportunities for pharmaceutical companies.

Although crop science is some years behind, it is also experiencing a transformation to biologically active ingredients. For example, naturally occurring microbes act as fertilisers for plants but have yet to be exploited systematically to raise crop yields. The nucleic acid revolution is also making new approaches possible in agriculture. For example, RNA interference could be used as a precisely targeted, environmentally friendly pesticide, by preventing the production of a critical molecule in the body of a specific pest.

The ability for these biologics to target specific elements in the host offers a significant opportunity to reduce negative impacts on the planet and society. Increased targeting means reduced overall dosage, fewer unintended side effects and the need for fewer resources to produce the same benefits. Novel performance means new approaches such as improved vaccination to both prevent and cure diseases, and regenerative agriculture that leverages the power of nature.
Capturing new opportunities

Through the divestment of most of our industrials business, and the acquisitions we have made in recent years, Croda has significantly repositioned to be more closely aligned with the powerful megatrends that are reshaping our markets. We are becoming a pure play company, focussed on high value niches in consumer care and life science markets.

We are positively impacting everyday life in Consumer Care, developing ingredients which help promote consumers’ wellbeing, confidence and self esteem.

Having refocused our Pharma portfolio, we are pioneering the future of health care by focusing on segments with the highest development needs.

With the crop care market at a pivotal point in its development, we are innovating for sustainable agriculture, helping to address the sustainability challenges of today, and developing new systems for the delivery of the biopesticides of tomorrow.

For more information on our businesses See pages 34-42

Our new business structure

Consumer Care

**Beauty Actives**
- 16,300 combinations\(^1\)
- 100 countries; >40% EM\(^2\)

**Beauty Care**
- 23,250 combinations
- 100 countries; >40% EM

**Fragrances and Flavours (F&F)**
- 73,000 combinations
- 124 countries; >80% EM

**Home Care**
- 2,500 combinations
- >70 countries; >40% EM

Life Sciences

**Pharma**
- Drug delivery systems
- Empowering biologics delivery
- >5,000 customers across multiple applications

**Crop Care**

**Crop Protection**
- Leader in sustainable delivery

**Seed Enhancement**
- Improving seed germination and growth

Supported by

**Industrial Specialties**

- Key role in our integrated manufacturing model
- Supports our sectors on shared sites
- Operates supply contract to Cargill

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1. Customer and product combinations
2. Emerging Markets
Capturing new opportunities

Consumer Care

Positively impacting everyday life

Key:
Croda niches
Market

The charts show overall market sizes and the size of the niches in which we operate. A more detailed explanation can be found opposite.

Market sizes and growth rates are company estimates informed by a range of third party sources.

CAGR = Compound Annual Growth Rate
Croda is the name behind the high-performance technologies in some of the world’s biggest brands, creating, making and selling speciality ingredients that are relied on by consumers everywhere. Long-term trends such as an ageing population and an expanding middle class 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.

Economic growth in the developing world is outstripping established markets with Asia, the Middle East, and Africa representing particularly significant sources of growth over the next decade. With current economic headwinds, consumer demand is likely to vary by region, and Croda’s global footprint should help underpin a resilient performance. We are implementing a strategic objective to achieve fast growth in Asia and are already well established there. We are also positioned to serve the growing indie market in Asia by adopting the successful model we have in North America.

Across consumer markets, we are focused on high growth niches which value our innovation through higher margins. Whilst skin care is already a fast-growth segment, the anti-ageing niche that we target is growing faster still. In Beauty Care, we have created new franchises focused on mineral sunscreens and professional hair care which are growing twice as fast as the broader categories. Our Home Care business is focused on two sustainability-driven niches, and our heritage in Fragrances and Flavours is in serving smaller customers in emerging markets, the segment that is widely seen as higher growth.

Consumers are always on the look-out for improved performance and will pay a premium for higher quality products and new trends. We are positioned as the leading innovator in consumer care markets, delivering cutting-edge technology and new ideas with proven substantiated claims. Consumers are also thinking more carefully about the products they buy and prefer those that are good for them and the planet, as well as highly effective. We are complementing our sector-leading range of sustainable ingredients with assured information about their impacts and an R&D programme focused on improving the sustainability of our ingredients and delivering sustainability benefits in use to our customers.

Buying products online has never been simpler and digital is increasing the speed at which new trends are adopted, leading to continued fragmentation of consumer markets. Proximity to our customers is now more important than ever and our ability to facilitate fast innovation and minimise customer time-to-market is creating significant opportunities.

We supply key ingredients, with on trend formulations, as well as broader support in areas like regulatory expertise helping to ensure that all-important element – speed. For our customers speed is the new IP.

Science and sustainability are driving consumers and our customers, with customers also wanting more intimate relationships with key suppliers to reduce time to market. Our portfolio remains the foundation of our success and is constantly evolving. The breadth of our portfolio of speciality and active ingredients is unrivalled in consumer care markets. In all we have more than 40,000 different product/customer combinations across Beauty Actives, Beauty Care and Home Care, augmented by over 70,000 combinations in F&F. In future, our broad portfolio, customer insights, and formulation expertise will enable us to become the complete provider of sustainable solutions to the premium end of consumer care markets.

For more information on our Consumer Care businesses See pages 34-37

Sustainability without compromise – ChromaPur
Small, manufactured plastic particles, known as microbeads, are used in a wide range of cosmetic and personal care products, with research suggesting that 87% of products from the ten best-selling cosmetics brands contain these microplastics. Often not visible to the eye, plastic microbeads provide functionality such as exfoliation, sensory enhancement or adding texture to cosmetic formulations. However, they often end up in oceans, with a potentially negative impact on marine life.

Using patented technology Croda has developed ChromaPur as an alternative. These cellulose powders provide exceptional sensory and optical benefits, including optically blurring the skin surface, reducing the appearance of pores and fine lines, and providing enhanced coverage and colour intensity in colour cosmetics. These alternatives to plastic microbeads are 100% natural, fully biodegradable, utilise a sustainable manufacturing process, and deliver equivalent performance to existing solutions.

1. www.plasticsoupfoundation.com
Pharma
Capturing new opportunities

Pioneering the future of Pharma

This graphic shows the correlation between growth potential and development need of the segmented pharma market. The drug delivery niche where we operate typically represents 1-3% of the total market sizes shown. A more detailed explanation can be found opposite.

Market sizes and growth rates are company estimates informed by a range of third party sources.

CAGR = Compound Annual Growth Rate

Nucleic acids market CAGR: >20%
Market size: $30bn

Proteins market CAGR: 10%
Market size: $300bn

Small molecules market CAGR: 5%
Market size: $920bn
The pharmaceutical market is large, valued at over $1.2 trillion a year and growing at over 6% CAGR. It is also a resilient market, largely independent of the macro-economic environment.

The chart opposite shows the pharma market segmented by growth potential and development need. At the bottom is the mature small molecules segment, very big and still growing middle single digit, but without the need for significant development. Above it is the protein segment, including monoclonal antibodies. Protein drugs have been developed over the last few decades and represented the first phase of the move to biologics. They account for the majority of the top ten selling drugs today and can cost thousands of dollars per treatment. Although this segment is relatively large already, it is still growing double digit. At the top is the nucleic acid segment which is the next phase of the move to biologics. Whilst it is currently a small segment, it is growing extremely fast and is widely regarded as the next blockbuster drug class. This is because nucleic acids can address the root cause of a disease. They have the potential to change the way that patients with cancer or genetic diseases are treated, and in some cases even provide a cure.

Very few drug formulations comprise the Active Pharmaceutical Ingredient (API) alone. Croda focuses on providing the components and systems for delivering the API. We are empowering biologics delivery by developing systems that deliver the API to the target site in the body, maintain its stability and improve its efficacy. For protein delivery we provide a range of specialty excipients for challenging formulations including injectables. By focusing on high value niches, we are the largest excipient supplier by value. 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. We leverage more than 50 years’ experience acquired with Avanti and the co-investments we are making with governments in the US and UK.

In total we have over 5,000 customers across the whole lifecycle of a drug, from research to commercial manufacturing. Our approach is to develop delivery systems for candidate drugs in early-stage research, generating revenue during clinical development and then as the principal supplier of the delivery system if the drug is commercialised. Our broad base means that we are not dependent on a single customer, and instead are exposed to a wide range of customers, drugs and applications.

Supplying delivery systems to help prevent cardiovascular disease
Nucleic acid-based therapies are the next big blockbuster drug class opening up exciting applications such as gene editing, where a patient’s genetic material can be modified to correct a disorder. Nucleic acid-based therapeutics require sophisticated technologies to deliver the active and overcome challenges such as instability.

Croda is the leader in non-viral delivery systems for nucleic acid. We are working on many gene therapy applications including a phase III trial with Verve Therapeutics to cure genetically induced high cholesterol, a condition affecting 31 million people worldwide that can lead to accelerated heart disease and early death. Verve Therapeutics recently dosed the world’s first patient with a gene editing medicine to correct the disorder, using lipids supplied by Croda as the delivery system. In preclinical studies, a single dose of the drug to silence the problematic gene resulted in a 60% reduction in LDL-cholesterol, persisting for 20 months.

We are pioneering the future of health care by focusing on segments with a high development need. Our key differentiator is innovation, creating new ingredients from sustainable sources that have a unique quality. By combining these ingredients into systems tailored for specific applications we can price our products based on the value of the outcome, thereby creating value for shareholders as well as contributing to new treatments for patients.

For more information on our Pharma businesses
See pages 38-41
Crop Care
Capturing new opportunities

Innovating for sustainable agriculture

A more detailed explanation can be found opposite.

Market sizes and growth rates are company estimates informed by a range of third party sources.

CAGR = Compound Annual Growth Rate

Biocides CAGR:
8%

Biocides market size:
$5bn

Conventional crop care CAGR:
3%

Conventional crop care market size:
$60bn

Market sizes and growth rates are company estimates informed by a range of third party sources.
We are at a pivotal moment for the agriculture industry which is facing the dual imperatives of delivering higher yields to feed a growing population and reducing chemical use to support sustainable food production. 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 also innovating to accelerate sustainable and regenerative agriculture in line with our aspiration to become Net Nature Positive by 2030.

The conventional crop care market is large, valued at $60bn, and growing at 3% a year. The market for biopesticides is much smaller at $5bn but is growing at 8% CAGR. While agriculture has traditionally relied on chemical fertilisers and pesticides, the industry is moving to biologics which are more specific and have a lower impact on biodiversity.

Through our expertise in delivery systems, we are enabling our customers to make the move to biologic actives. Today, predators are used to control insects in greenhouses. Next, micro-organisms will be used more widely as pesticides, stimulants or fertilisers, and we are developing next generation delivery systems for these new microbial actives. In the future, nucleic acid will be used to target a specific pest, avoiding unintended impacts on pollinators, or to teach a plant to make its own medicine to inactivate a disease, and we are innovating to enable this approach. The move to biologics is a significant opportunity for Croda as biopesticides, biostimulants and biofertilisers all need new systems to ensure their effective delivery.

Our expertise in seed enhancement supports this move to biologics as microbials can be applied via treated seeds to stimulate growth thereby delivering higher yields and reducing the need for the crop to be sprayed. We are also helping solve the problems the industry is facing, for example being first to market with a microplastic-free seed coating many years before new regulation, and by ensuring seeds germinate in the more challenging conditions created by climate change.

With the agriculture sector a major contributor to global GHG emissions, we recognise we must both create solutions for the future and help address the challenges of today. We create biostimulants to enable farming of less suitable land and mitigations for abiotic stress that promote plant growth in the increasingly harsh weather conditions. We offer drift reduction technologies to target spraying of crops, a key enabler to new farming practices such as drone application, and to reduce pesticide use and run-off. Our low carbon and bio-based delivery systems are enabling the move to sustainable ingredients, and our expertise in biodegradability is promoting soil health.

With our focus on delivery systems, Croda is positioned as innovation partner to the major crop science companies. Innovation is becoming more collaborative as delivery systems become more specific to the active. Our relationships with smaller companies are also growing as we expand in Asia and the industry is disrupted by the move to biologics, allowing us to make a bigger contribution to global food security.

For more information on our Crop Care businesses
See pages 38-41

1. The European Union’s Farm to Fork strategy, announced in 2020
Sector reviews

**Consumer Care strategy:**
The most responsive, innovative and sustainable solution provider

“Proximity to our customers is now more important than ever – our ability to facilitate fast innovation and minimise customer time-to-market is creating significant opportunities. We supply the ingredients, and on-trend formulations, as well as broader support in areas like regulatory expertise to deliver that all-important element – speed. For our customers speed is the new IP.”

David Shannon, President Consumer Care

**Business units**

**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 leads the market with the largest actives portfolio, through three brands: Sederma, for differentiated skin actives derived from peptides and biotech; Alban Muller, for natural botanical actives; and Crodarom, for botanical extracts. The strategy is to be the ‘go to’ provider for performance claims, reinforcing our leadership by expanding our footprint, accessing sustainable technologies, leveraging the recent Alban Muller acquisition and targeting new acquisitions in adjacent technologies, such as the recently announced Solus acquisition.

**Beauty Care**
(c.55% of sector sales)

Beauty Care delivers differentiated ingredients across skin, hair and solar care, with a heritage portfolio which is the second largest in the industry. 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.

**Fragrances and Flavours (F&F)**
(c.25% of sector sales)

F&F is the preeminent emerging market provider, with near-global reach and innovative technologies that meet smaller customers’ needs. 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 Soentum 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 ingredient customer base.

**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 proteins that increase the lifetime of clothes; and household care, with sustainable alternatives to fossil-based surfactants.

**Consumer Care SDG alignment:**
Contributes to 19 SDG targets

**Total number of Consumer Care customers:**
6,100
up from 4,300 in 2014

**Presence in countries:**
>120
up from 54 in 2014
Leveraging Group-wide capabilities to accelerate the development of natural active ingredients

The move in cosmetics towards replacing synthetic ingredients with sustainable alternatives is increasing demand for naturally sourced actives. In anticipation of this trend, Croda acquired Nautilus, a leading marine biotechnology company based in Nova Scotia, Canada, subsequently creating the Croda Centre of Innovation for Marine Biotechnology.

Leveraging the extensive expertise of Nautilus in sourcing and evaluating potential marine molecules, with Sederma then selecting and scaling up promising natural actives for testing, we have been able to accelerate the development of natural actives. We expect to launch two patented products based on marine micro-organisms in 2023, one for skin care and one for hair care. This follows both in-vitro and in-vivo trials, along with positive customer feedback during previews.

Strengthening Consumer Care to be more responsive, innovative and sustainable

Croda has the broadest range of critical Consumer Care ingredients in the industry, specialty products 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 reflects the megatrends that shape consumer behaviour and drive our customers’ needs. Consumers want performance and 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. New Formulation Academies enable us to 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 reached agreement to acquire Solus Biotech, consolidating Croda’s position across three critical technology platforms of peptides, ceramides and retinol, while adding a North Asia manufacturing facility and biotech innovation hub.

Consumer Care targets annual organic sales growth of at least 5%, supplemented by synergies from integrating the recent F&F acquisitions, with a return on sales at or above 25%, over the medium-term. Its key target markets are skin care, hair care, solar protection, fabric and surface care, and fragrances.

For more information on Consumer Care, see the investor seminar hosted in March 2022.
Sector reviews continued

Consumer Care performance review

A solid performance demonstrates increased resilience

“Consumer care products are increasingly synonymous with wellbeing and self-esteem, with consumers willing to pay a premium for new trends and high quality/low impact products that are good for them and good for the planet.”

Sales
£897.8m
(2021: £763.0m)

Adjusted operating profit
£204.7m
(2021: £188.5m)

Consumer Care delivered a solid performance in 2022, with record sales and profit but a more constrained second half year performance. Sales were up 18% and adjusted operating profit 9% higher. Across the four businesses, Beauty Care and F&F saw the strongest growth. Beauty Care developed well in the higher value niches driven by demand for sustainable ingredients, such as mineral sunscreens. Within F&F, sales in fragrances recovered after a challenging 2021, as emerging market conditions improved, alongside developing Croda sales synergies and benefits from integration of the recent Parfex acquisition. Beauty Actives had a quieter year, with destocking impacting performance but good progress integrating the recent Alban Muller acquisition. Home Care grew with the roll out of high value protein ingredients.

Sales grew to £897.8m (2021: £763.0m). Price/mix was up 22% as significant input cost inflation was successfully recovered. Volume was 12% lower than 2021, driven by two components. Firstly, excess stocks across our customers and the retail supply chain, following strong demand in 2021 to meet the post-pandemic recovery, led to destocking by customers in the second half of 2022, particularly in North America. Secondly, volume was lower due to selective demarketing of lower margin products due to capacity constraints in some Croda sites, together with the closure of our Russia office. It is estimated that customer destocking has accounted for five percentage points of the volume decline, with five points from demarketing and the balance from Russia and other impacts. Previous acquisitions added 2% to overall sales growth (in their first 12 months of ownership) and currency translation added 6%.

Adjusted operating profit increased to £204.7m (2021: £188.5m). Return on sales reduced to 22.8% (2021: 24.7%), with second half year margin lower due to the gearing effect of lower volume and the impact of the adverse business mix, as Beauty Care and F&F grew faster than the higher margin Beauty Actives business. IFRS operating profit declined to £144.5m (2021: £168.0m), including an impairment charge of £34.6m to the carrying value of the Flavours business, where lower forecast sales and margin have reduced the future value projection.

Delivery of our Strengthen to Grow strategy is progressing well, positioning Consumer Care as a more resilient growth platform. Consumer care products are increasingly synonymous with wellbeing and self-esteem, with consumers willing to pay a premium for new trends and high quality/low impact products that are good for them and good for the planet. Croda is positioned as the leading innovator, developing cutting edge products with substantiated claims and fully assured impact data for customers to develop their new products. In 2022, we published product information dossiers on our products and are developing life cycle assessments and associated carbon footprint data that include the scope 3 carbon emission data for our products. Driving fast innovation and minimising customers’ time to market, we have launched Formulation Academies, promoting our full service formulation capability and giving smaller customers greater access to market-leading formulations. With over 70,000 customer/product combinations in F&F and 40,000 across the remainder of Consumer Care, the Academies are benefitting all our businesses, but particularly Beauty Care and F&F.

We are expanding in Asia, with rising regional consumption increasing penetration of consumer care products and Croda’s sales now matching those in North America. China is likely to be the fastest growing market, with Croda already well established and serving the domestic market through imports and local production, achieving high single digit percentage sales growth in 2022 despite local COVID lockdowns. With our ‘fast grow Asia’ strategic initiative, investment in China is increasing innovation and sales resource, replicating our US model to serve a growing customer base of ‘Indie’ brands and acquiring a site to expand our fragrance and botanical production. More broadly, investment in Consumer Care is focused on expanding sustainable technologies, including biotech. We continue to explore targeted acquisition of adjacent knowledge-rich technologies, building on the agreement to acquire Solus Biotech, with its rich IP and proprietary know-how in biotech-derived beauty actives.
Skin care is a growth market, with the anti-ageing niche we target growing even faster. Beauty Actives has the largest active ingredient portfolio. Underlying sales were flat in 2022 against a strong prior year which had seen sales grow close to 30%, and the business experienced customer destocking in the third quarter but recovering somewhat as the year finished. Beauty Actives increased its customer base and innovation pipeline, Croda is the recognised leader in peptide ingredients, an effective anti-ageing technology, and is expanding into two other critical technology platforms – retinol and ceramides.

In retinol, 2022 saw the launch of Revitalide, which is differentiated through encapsulation, leveraging expertise from our Brazil encapsulation centre of excellence, which improves skin penetration ninefold and doubles its lasting effect. We are entering the ceramides market through the agreement to acquire Solus.

Beauty Care saw success from new teams focused on mineral sunscreens and professional hair care, segments growing twice as fast as broader categories. Strong double digit percentage sales growth saw record solar protection sales, driven by consumer preference for mineral-only sunscreens and greater use of UV filters in daily wear products, with sales particularly strong in Asia. We achieved our People Positive commitment of protecting 60 million lives globally through sun care solutions, seven years ahead of schedule. Alongside this success, the consumer shift to sustainable ingredients saw Croda expand its bio-based and milder surfactant portfolio, while Personal Care sales of ECO bio-based surfactants tripled in the year, supporting our ambition to eliminate petrochemical derived surfactants globally. New product launches included ChromaPur, a natural alternative to microbeads that contain microplastics and are currently used in a wide range of personal care products.

F&F is focused on serving local customers in emerging markets, which are seeing the highest growth in fragrances. Sales grew by over 20%, with strong price recovery of raw material inflation. Innovation included bio-based fragrances and the launch of VernovaCaps, only the second biodegradable fragrance capsule on the market. The technology opens up encapsulated fragrances to customers beyond major global brands and has already been selected for fabric conditioners. The recent acquisition of Parfex has increased our presence in fine fragrances and our position in France. We have expanded our teams in Indonesia and South Africa, and launched a new F&F operation in Brazil, leveraging Croda’s existing personal care strength. We are investing in China, already a significant fragrance market for Croda.

Following some COVID-imposed delays, we are now driving integration synergies which will deliver nearly €50m of annual sales through combination with Croda’s formulation capability. Home Care secured a new contract which will underpin growth in its core protein fabric technology and launched a microbial cleaning technology creating a new sustainable niche.
Sector reviews continued

**Life Sciences strategy:**
Empowering biologics delivery

“In the last ten years something incredible has happened. With the genome revolution, we are no longer giving medicine to the body, we are telling the body to create its own medicine. This is opening an incredible number of possibilities that will change the pharma sector in the next ten years.”

Daniele Piergentili, President Life Sciences

**Business units**

**Pharma**
(c.60% of sector sales)
Pharma targets leadership in biologics drug delivery, delivering drug and vaccine systems through synthesis, system formulation and application technology know-how, and comprises three platforms:

**Protein/Small Molecule Delivery** has an established record of providing excipients (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.

**Adjuvant Systems** was created by our 2018 acquisition of Biosector, creating the best invested third party supplier of adjuvants (immune response boosters) for vaccines. 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 by our 2020 acquisition of Avanti and delivered the world’s first commercial lipid system for mRNA vaccines for COVID-19. Nucleic acid therapeutic drugs and vaccines will be increasingly commercialised from 2025. Avanti brought an unmatched portfolio of R&D customer relationships, with over 3,000 customers and a diverse range of lipids and similar components. Our strategy is to be a global leader in nucleic acid delivery systems by expanding our portfolio of technologies and ingredients.

**Crop Care**

**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 biologics and contributing to food security.

**Seed Enhancement**
(c.10% of sector sales)
Seed Enhancement leverages our leadership in seed coating systems to improve germination, stimulate healthy development of seeds and increase crop yield. Our strategy is to be the leader in sustainable solutions for field and vegetable crops.

**Life Sciences SDG alignment:**
Contributes to 18 SDG targets

<table>
<thead>
<tr>
<th>Total number of Pharma customers:</th>
<th>Partner to major crop science companies and growing number of small and medium sized customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;5,000</td>
<td></td>
</tr>
</tbody>
</table>
For more information on Pharma, see the investor seminar hosted in October 2022. A Crop Care investor day is to be held in 2023.

**Expanding Life Sciences to empower biologics delivery**

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 ‘buy and build’ approach to new technology platforms has made Life Sciences as important to Croda as Consumer Care.

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 and vaccine 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 Crop Care, we are reinforcing our leadership with sustainable solutions and leveraging our expertise to accelerate the transition to biologics, 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 and the first to deliver a commercial COVID-19 mRNA delivery system.

Life Sciences targets high single digit percentage annual sales growth, with a return on sales over 30% over the medium-term.
Sector reviews continued

Life Sciences performance review
Building on an exceptional prior year

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

Following an outstanding year for Life Sciences in 2021, with the rapid expansion of Pharma following the Avanti acquisition and exceptional demand for COVID-19 vaccines, 2022 saw further strong progress. Sales increased by 19% and adjusted operating profit by 10%. Across the three businesses, Crop Protection led the way, with exceptional growth driven by double-digit percentage volume and price/mix increases. Seed Enhancement, with its innovative microplastic-free product innovation, also grew sales by double-digit percentage. Croda Pharma consolidated on its stellar growth in 2021, with continued expansion in delivery systems in Protein/Small Molecule Delivery and for non-COVID nucleic acid applications.

Crop Protection was the standout business, delivering strong double-digit percentage sales growth, with a combination of high global demand and significant commodity price inflation supporting value-added crop treatments. Working in partnership with crop science customers and collaboratively to solve sustainability challenges and improve yields, our aspiration is to be Net Nature Positive by 2030. A particular area of focus is biodegradability to promote soil health, with a number of new biodegradable ingredients coming to market. Syngenta awarded Croda its ‘Reduction in Carbon’ supplier award, recognising the carbon benefits in use of Croda’s products and the customer benefits from our sustainability strategy. We are investing to develop systems for next generation bioprecipitate delivery that use microbials and RNA, a market which is currently much smaller than conventional pesticides but is growing fast. Biologic actives are more complex and specific, meaning land treatment can be at a much lower level than conventional chemical pesticides.

Seed Enhancement also delivered a double-digit percentage sales increase. As an innovation partner to leading seed companies, our range of microplastic-free seed coatings have been proven in field trials across a variety of vegetable and field crops, with all major customers and in all major regions. This is creating significant growth opportunities, with commercial sales in multiple field crops and vegetables already secured. The business delivered the first successful field trials in the Americas for drought-resistant seed coatings, helping farmers to reduce the negative impact from abiotic stress. It also developed a tailored treatment for potato seeds which have multiple sustainability benefits over potato tubers that farmers have traditionally used.

In 2022, our Health Care business was repositioned as ‘Croda Pharma’ to focus on segments with complex development requirements. The relaunch was accompanied by a new brand, organisational structure and governance for its exciting project and innovation pipelines. Protein/Small Molecule Delivery grew strongly, providing delivery systems for both mature small molecule drugs and higher growth protein and mAb applications. With 1,400 direct customers, the business is working on over a thousand customer projects across both clinical development and commercial supply. These include projects in several therapeutic areas, such as osteoporosis, hypertension, diabetes and cancer, particularly in Asia, North America and Europe. Strong demand in India will be supported by a new Pharma innovation centre opening soon in Hyderabad.
Within Pharma, the Adjuvant Systems business saw reduced demand from COVID systems in 2022 but has grown to over 100 commercial customers for prophylactic vaccines that prevent disease. It is also supporting many hundreds of pre-clinical and clinical projects, including new prophylactic vaccines driven by the WHO’s immunisation agenda and novel therapeutic vaccines that fight already contracted disease. These include a respiratory syncytial virus (RSV) vaccine in phase III trials, a personalised cancer vaccine in clinical phase II development and a new vaccine for Ebola. The innovation pipeline is focused on the development of adjuvant systems to power the therapeutic vaccines of the future, leveraging expertise added with the Avanti acquisition and a new applications laboratory in Denmark.

With mRNA vaccines for COVID-19 having proven the viability of our Nucleic Acid Delivery business, the market for new drug and vaccine applications is developing fast, both for mRNA-based drugs and gene editing applications, which modify a patient’s genetic material to correct a disorder. 2022 sales were approximately US$170m (2021: $230m), a little ahead of expectations. Sales outside the principal COVID-19 vaccine customers now represent almost 40% of business sales and are expected to be the majority of the $120m sales expected in 2023, as COVID-19 sales continue to decline. Supporting close to 100 nucleic acid drugs currently in development, including manufacturing materials for a phase III trial of a flu vaccine, combination vaccines, cancer immunotherapies and the world’s first human trial of a gene therapy application, the pipeline for this business is strong.

We are investing in innovation, knowledge and capacity to broaden our footprint and capabilities in drug delivery, including new application laboratories aligned to each business. We have a £175m capital programme for the period 2021-24 to expand our Pharma capability, including the expansion of the US Avanti site into a full GMP facility, the expansion of our UK lipid scale up facility and the creation of a second US GMP scale up plant in Pennsylvania. Our investment is supported by up to an additional £75m from the UK and US governments, in recognition of the importance of our delivery systems to future drug development and their pandemic preparedness plans.

Supporting the next generation of therapeutic vaccines

Vaccine adjuvants are used to enhance immune response to an antigen, improving the overall efficacy of the vaccine and increasing protection against the target disease. Croda is the leading independent supplier of vaccine adjuvants with unrivalled breadth across aluminium, saponin and lipid based adjuvants.

In addition to traditional prophylactic (preventative) vaccines, our technology is enabling the next generation of therapeutic vaccines, used to combat an already contracted disease. These are typically higher value, requiring more advanced adjuvant systems. One of Croda’s adjuvant systems is included in a personalised immunotherapy drug candidate, currently in phase II clinical trials. The vaccine, in combination with an inhibitor treatment, targets metastatic melanoma, a disease occurring when cancerous cells from the primary tumour spread, starting a new tumour elsewhere in the body.
Industry Specialties performance review

Industrial Specialties established

The Performance Technologies and Industrial Chemicals (PTIC) business performed well in the first half of 2022, with recovery of material input cost inflation, as volume declined as industrial markets destocked and were impacted by emerging macroeconomic recession. Industrial Chemicals benefitted from the strong commodity pricing environment.

Croda divested the majority of the PTIC business on 30 June 2022. From 1 July 2022, the part of PTIC retained by Croda became Industrial Specialties (IS), including the Sipo joint venture in China. IS plays a critical role in our shared manufacturing model, supporting the efficiency of the Consumer Care and Life Sciences sectors. In addition to supplying ingredients for water treatment, fibres and fabrics, emulsion technologies, low emission coatings, display technologies and electronics, it also generates revenue from a new supply agreement with the acquirer.

IS revenue totalled £509.2m in 2022 (2021: £554.3m) and adjusted operating profit increased to £81.0m (2021: £71.6m), despite the lack of the divested business in the second half year. IFRS profit was £79.9m (2021: £69.2m).

Industrial Specialties established to support Consumer Care and Life Sciences sectors

The Industrial Specialties (IS) business has been established with a lean operating model to support our Consumer Care and Life Sciences sectors, where we see exciting growth opportunities and are focusing investment. Alongside the supply agreement to Cargill, whereby Croda supplies products needed by the acquirer to meet customer requirements, the remaining industrials business also generates revenue by leveraging core Croda chemistries to support the overall efficiency of our operations.

For example, some IS sales are generated from products produced on shared manufacturing plants, or utilise by-products from other processes as raw materials, such as our Pharma operations in Leek, UK, where profitability is maximised by finding valuable industrial applications for products produced using by-products from Pharma manufacturing. Another example of this in practice is at Rawcliffe Bridge, UK, a core Croda site producing both Consumer Care and Life Sciences products, where industrial applications for products produced using co-streams from lanolin production improve overall efficiency and increase plant utilisation levels, creating additional value from lanolin production.
Investor proposition

Croda is becoming a pure play company, focused on high value niches in consumer care and life science markets. This is creating a stronger margin, higher return, more knowledge intensive and lower carbon intensive business. This will translate into consistent top line growth and increased margins, delivering superior returns in the years ahead.

A differentiated business...

Focused on high growth niches
We prioritise value over volume and focus on high growth niches. Operating with flexible manufacturing we can be responsive to demand.

Underpinned by innovation
Intellectual property and know-how underpin our success. Direct selling, unrivalled customer intimacy and local R&D facilities fuel our innovation engine.

With a Purpose-led culture
A culture built on customer intimacy, innovation, and entrepreneurial spirit, guided by our Purpose. This supports a decentralised operating model with decisions made ‘close to customers’.

Leading sustainability Commitment
Sustainability is a core pillar of our strategy. Not only is it the right thing to do, it will also drive growth in our business as consumers demand sustainable ingredients.

And a diversified customer base
With diversified exposure across markets, customers, and technology platforms we are not reliant on any single customer.

...with attractive financial characteristics

Attractive operating margins
A focus on small niches, where our innovation is valued by customers, means we achieve an attractive return on sales.

With high returns on capital
Our capital light and cash generative operations support high returns on capital, with a target of at least two times out cost of capital.

A clear capital allocation policy
We have a clear capital allocation policy prioritising organic investment in sustainability and innovation for growth.

And strong balance sheet
With net debt to EBITDA of 0.5x our balance sheet strength supports the execution of our strategy and potential inorganic investment.

Delivering attractive shareholder returns
A track record of delivering attractive returns to shareholders with consistent dividend progression for more than 30 years.

Full year ordinary dividend per share (pence), 2011-2022

For more information, see our Finance review
See pages 44-47
**Finance review**

**Consistent execution**

“With our powerful business model, broad portfolio, global footprint and flexible operations, we delivered an 11% increase in both sales and adjusted profit before tax in 2022”

**Impact of PTIC divestment**

The Group received cash consideration of £651.0m, net of customary deductions, from the divestment of the majority of its PTIC business. The divestment generated a pre-tax gain on disposal of £356.0m which has been separately recognised in the Income Statement, within the Adjustments column. The divested business did not meet the requirements to be classified as a discontinued operation as Croda did not exit a geographical area of operation and it retained a proportion of the PTIC business, now reported as Industrial Specialties. In 2022, the revenue of Industrial Specialties was £509.2m and adjusted operating profit £81.0m (with the prior period restated to combine the PT and IC segments, which were previously reported separately). Taking account of the sales and profit retained by Croda under supply agreements for products manufactured at Croda retained sites and supplied to the acquirer, together with dis-synergy costs remaining with Croda which were previously allocated to the divested business, the estimated impact of the divestment on these results, had disposal occurred on 1 January 2022, would have been to reduce revenue by £191m and adjusted operating profit by £39m. Following the divestment, associated dis-synergy costs have been allocated across the Consumer Care and Life Sciences sectors. This reduced second half year return on sales in these two sectors by just under one percentage point compared with the prior year comparator period.

**Strong sales from organic growth**

Group sales grew by 10.6% to £2,089.3m (2021: £1,889.6m), comprising underlying growth of 4.6%, currency translation of 5.4% and acquisition impact of 0.6%. Within underlying growth, sales/price mix improved by 24.2%, reflecting the successful recovery of cost inflation and improved mix. By contrast, volume reduced by 19.6%, with an estimated 13 percentage points of the decline driven by the PTIC divestment, which resulted in lower sales in Industrial Specialties in the second half year.

Consumer Care sales increased by 17.7%, with underlying sales 9.7% higher. Sales/price mix was strong, partly offset by volume which reduced due to a strong comparator period, de-marketing of lower margin products in light of capacity constraints and customer destocking in the second half of 2022. Life Sciences sales increased by 19.2%, with underlying sales 13.9% higher, supported by both price/mix and volume growth. Second half year growth accelerated in Life Sciences, with a good performance in Seed Enhancement complementing continued Crop Protection growth.

**Currency translation**

Sterling weakened against the US Dollar to US$1.237 (2021: US$1.375) but was broadly flat against the Euro (€1.174 (2021: €1.164)). Currency translation benefitted sales by £100.6m and adjusted operating profit by £19.6m. Transactional currency impact is correlated with translation, given that the UK and EU are meaningful centres of production for the Group, with the weakness of both Sterling and the Euro against the US Dollar having a net positive impact.

**Sales growth**

<table>
<thead>
<tr>
<th>2022</th>
<th>%</th>
<th>£m</th>
<th>Price/mix</th>
<th>Volume</th>
<th>Acquisition</th>
<th>Currency</th>
<th>Change</th>
<th>Restated 2021 £m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Care</td>
<td>24.0</td>
<td>897.8</td>
<td>22.0%</td>
<td>(12.3%)</td>
<td>1.5%</td>
<td>6.5%</td>
<td>17.7%</td>
<td>763.0</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>11.8</td>
<td>682.3</td>
<td>5.7%</td>
<td>8.2%</td>
<td>0.0%</td>
<td>5.3%</td>
<td>19.2%</td>
<td>572.3</td>
</tr>
<tr>
<td>Industrial Specialties</td>
<td>7.1</td>
<td>509.2</td>
<td>19.9%</td>
<td>(31.7%)</td>
<td>0.0%</td>
<td>3.7%</td>
<td>(8.1)%</td>
<td>554.3</td>
</tr>
<tr>
<td>Group</td>
<td>10.6</td>
<td>2,089.3</td>
<td>24.2%</td>
<td>(19.6%)</td>
<td>0.6%</td>
<td>5.4%</td>
<td>10.6%</td>
<td>1,889.6</td>
</tr>
</tbody>
</table>
Record Group profit delivery despite continued inflation

2022 saw a second consecutive year of raw material inflation driven by global commodity prices and geopolitical events, with prices of the top 75% of raw materials up by 23%, in addition to the 17% rise seen in 2021. Raw material costs peaked in the third quarter of 2022 and have seen modest declines since. Operating costs were impacted by increasing inflation during 2022, most notably in energy and labour costs. Croda’s powerful business model enabled overall inflation recovery, protecting absolute profit. Operating costs also benefitted from a lower variable remuneration charge, reflecting the impact of a lower share price on share scheme costs.

IFRS operating profit was £444.7m (2021: £438.2m), the gain on the PTIC disposal was £356.0m and interest charge £20.7m, giving a profit before tax of £780.0m (2021: £411.5m). Operating costs included a charge for other adjusting items of £70.4m (2021: £30.4m), reflecting an unchanged charge for amortisation of intangible assets arising on acquisition of £34.3m (2021: £34.3m) and a charge for exceptional items of £36.1m (2021: £3.9m credit). In common with many companies, Croda separately identifies such items which require separate disclosure by virtue of their size or incidence.

The charge for exceptional items comprised 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, where forecast sales and margin are behind the acquisition case, reducing the future value projection, and a £7.6m write-off of unusable manufacturing equipment in Japan. The adjusting charge within net interest relates to unwind of the discount on contingent consideration of £1.7m (2021: £3.3m).

Adjusted operating profit, measured excluding the adjusting items above, increased by 9.9% to £515.1m (2021: £468.6m), reflecting the higher sales. Return on sales was broadly unchanged at 24.7% (2021: 24.8%), with an improved margin mix from the reduced share of industrial sales and the lower variable remuneration charge offset by normalisation of the Life Sciences margin, after an exceptional 2021, and a lower Consumer Care margin due to the operating gearing effect of lower volume and a weaker product mix. Adjusted profit before tax increased by 11.4% to £496.1m (2021: £445.2m).

The effective tax rate on adjusted profit was 22.8% (2021: 21.2%), the prior year having benefited from a one-off benefit from settlement of a previously uncertain tax position. The effective tax rate on IFRS profit was 16.2% (2021: 21.6%), the lower rate reflecting corporate tax exemptions available on the PTIC divestment. There were no significant adjustments between the Group’s expected and reported tax charge based on its accounting profit. IFRS basic earnings per share (EPS) more than doubled to 465.8p (2021: 230.0p), while adjusted basic EPS increased by 8.8% to 272.0p (2021: 250.0p).

Growing sector profits

Consumer Care adjusted operating profit grew by 8.6%, driven by higher sales but at a lower margin, reflecting lower volume and an adverse business mix. Life Sciences adjusted operating profit grew by 10.0%, despite the prior year being buoyed by exceptional demand for COVID-19 vaccines, with sales growing in the rest of the Pharma business and in Crop Care. Industrial Specialties profit grew by 13.1%, a strong result given the business was significantly smaller, following the divestment of the majority of the business in June 2022 (with the second half of 2021 estimated to have benefited from £27m of adjusted operating profit from the divested business (compared to £nil in the second half of 2022)). Group profit growth reflected underlying growth and currency translation benefit across all sectors, with no material impact from acquisitions (covering the first 12 months of ownership).

<table>
<thead>
<tr>
<th>Sales and profit</th>
<th>2022</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>IFRS</td>
<td>Adjustments</td>
</tr>
<tr>
<td></td>
<td>£m</td>
<td>£m</td>
</tr>
<tr>
<td>Sales</td>
<td>2,089.3</td>
<td>–</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>(1,103.7)</td>
<td>–</td>
</tr>
<tr>
<td>Gross profit</td>
<td>985.6</td>
<td>–</td>
</tr>
<tr>
<td>Operating costs</td>
<td>(540.9)</td>
<td>(70.4)</td>
</tr>
<tr>
<td>Operating profit</td>
<td>444.7</td>
<td>(70.4)</td>
</tr>
<tr>
<td>Gain on business disposal</td>
<td>356.0</td>
<td>356.0</td>
</tr>
<tr>
<td>Net interest charge</td>
<td>(20.7)</td>
<td>(1.7)</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>780.0</td>
<td>283.9</td>
</tr>
<tr>
<td>Tax</td>
<td>(126.7)</td>
<td>(13.8)</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>653.3</td>
<td>270.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating profit</th>
<th>2022</th>
<th>2021 restated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IFRS</td>
<td>Adjustments</td>
</tr>
<tr>
<td></td>
<td>£m</td>
<td>£m</td>
</tr>
<tr>
<td>Consumer Care</td>
<td>144.5</td>
<td>(60.2)</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>220.3</td>
<td>(9.1)</td>
</tr>
<tr>
<td>Industrial Specialties</td>
<td>79.9</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Group</td>
<td>444.7</td>
<td>(70.4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjusted profit</th>
<th>2022</th>
<th>2021 restated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Underlying growth</td>
<td>Acquisition Impact</td>
</tr>
<tr>
<td>Consumer Care</td>
<td>204.7</td>
<td>8.8</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>229.4</td>
<td>9.8</td>
</tr>
<tr>
<td>Industrial Specialties</td>
<td>81.0</td>
<td>7.6</td>
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<tr>
<td>Operating profit</td>
<td>515.1</td>
<td>26.2</td>
</tr>
<tr>
<td>Net interest</td>
<td>(19.0)</td>
<td></td>
</tr>
<tr>
<td>Profit before tax</td>
<td>496.1</td>
<td></td>
</tr>
</tbody>
</table>
Finance review continued

The phasing of return on sales between the first and second half years reflected normal seasonality, together with a lower margin in Consumer Care in the second half year due to the dilution effect of lower volume and business mix.

<table>
<thead>
<tr>
<th>2022 return on sales</th>
<th>First half %</th>
<th>Second half %</th>
<th>Full year %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Care</td>
<td>26.6</td>
<td>18.9</td>
<td>22.8</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>36.0</td>
<td>31.4</td>
<td>33.6</td>
</tr>
<tr>
<td>Industrial Specialties</td>
<td>17.7</td>
<td>12.3</td>
<td>15.9</td>
</tr>
<tr>
<td>Group</td>
<td>26.6</td>
<td>22.3</td>
<td>24.7</td>
</tr>
</tbody>
</table>

**Improving free cashflow**

Free cash flow was £167.4m (2021: £153.6m), with working capital improving, as expected, in the second half year as raw material inflation peaked, resulting in a reduction in inventory and receivables values. Nevertheless, average values remained elevated at year end; of the £133.8m increase in working capital during the year, approximately £92m reflected the impact of inflation at a ‘constant days cover’. The remaining £52m reflected investment for growth, primarily higher receivables. Net capital expenditure was £138.5m (2021: £158.5m), driving future growth opportunities and supported by government funding grants in the Pharma business. Investment was behind expectation, with some supply chain challenges, but is expected to recover in the shortfall in 2023, in line with our plans.

Closing net debt was £296.2m (2021: £323.2m), benefitting from disposal proceeds. The leverage ratio reduced to 0.5x EBITDA (2021: 1.4x). As at 31 December 2022, the Group had committed funding in place of £1,122.5m, with undrawn committed facilities of £579.3m and £320.6m in cash.

**Assessing evolving risks**

The Group conducts scenario modelling as part of its viability and going concern evaluation, to evaluate the impact of uncertainties, continually reassessing evolving risks and their impact on the Group’s strategy. These scenarios highlighted the resilience of the Group and its ability to withstand unexpected shocks.

**Effective capital allocation**

The divestment has released capital to be reinvested in faster growth markets, further developing our sustainability leadership in consumer care and crop care markets, whilst increasing our presence in pharmaceutical delivery systems. We are prioritising organic capital investment to create new technology platforms and expand capacity for future growth. This will be complemented with inorganic investment, where we can acquire complementary businesses and organically invest in them to grow, in line with our ‘buy and build’ model.

These elements are reflected in the Group’s capital allocation policy, to:
1. Reinvest for growth – investment 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. The full year dividend has been raised by 8% to 106.0p (2021: 100.0p);
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 our Consumer Care business and expanding in Life Sciences; and
4. Maintain an appropriate balance sheet and return excess capital – 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.

**Retirement benefits**

The post-tax asset on retirement benefit plans at 31 December 2022, measured on an accounting valuation basis under IAS19, was £75.2m (2021: £5.8m), with the surplus primarily reflecting higher discount rates. Cash funding of the various plans is driven by the schemes’ ongoing actuarial valuations. The triennial actuarial valuation of the largest pension plan, the UK Croda Pension Scheme, was performed as at 30 September 2020 and indicated that the scheme was 101% funded on a technical provisions basis. Consequently, no deficit recovery plan is required. Although the UK scheme utilises a Liability Driven Investment (LDI) structure, its gearing level is modest and no solvency issues were encountered during the UK ‘gilt crisis’ during September 2022.

**Post balance sheet events**

On 3 February 2022, we agreed to acquire Solus Biotech, a global leader in premium, biotechnology-derived beauty actives, from Solus Advanced Materials for a total consideration of KRW350bn (approximately £232m) on a debt-free, cash-free basis. Employing 95 people in South Korea, Solus expands Croda’s Asian manufacturing capability and will create a new biotechnology R&D hub in the region. The business generated approximately KRW43bn (c.£28m) of sales in 2022. The pending acquisition will provide access to Solus’ existing biotech-derived ceramide and phospholipid technologies, and its emerging capabilities in natural retinol, and will enhance and complement Beauty Actives portfolio and increase our exposure to targeted prestige segments. The acquisition is subject to regulatory approval and will be funded from cash and debt facilities.

<table>
<thead>
<tr>
<th>Cash flow</th>
<th>2022</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted operating profit</td>
<td>£515.1</td>
<td>£468.6</td>
</tr>
<tr>
<td>Depreciation and amortisation</td>
<td>86.4</td>
<td>79.0</td>
</tr>
<tr>
<td>EBITDA</td>
<td>£601.5</td>
<td>547.6</td>
</tr>
<tr>
<td>Working capital</td>
<td>(133.8)</td>
<td>(102.5)</td>
</tr>
<tr>
<td>Net capital expenditure</td>
<td>(138.5)</td>
<td>(158.5)</td>
</tr>
<tr>
<td>Payment of lease liabilities</td>
<td>(17.4)</td>
<td>(14.4)</td>
</tr>
<tr>
<td>Non-cash pension expense</td>
<td>4.5</td>
<td>11.2</td>
</tr>
<tr>
<td>Interest &amp; tax</td>
<td>(148.9)</td>
<td>(129.8)</td>
</tr>
<tr>
<td>Free cash flow</td>
<td>£167.4</td>
<td>153.6</td>
</tr>
<tr>
<td>Dividends</td>
<td>(144.4)</td>
<td>(132.5)</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>(21.2)</td>
<td>(58.8)</td>
</tr>
<tr>
<td>Business disposal net of cash in disposed businesses</td>
<td>579.0</td>
<td>–</td>
</tr>
<tr>
<td>Other cash movements</td>
<td>(18.5)</td>
<td>19.0</td>
</tr>
<tr>
<td>Net cash flow</td>
<td>£562.3</td>
<td>(18.7)</td>
</tr>
<tr>
<td>Net movement in borrowings</td>
<td>(381.8)</td>
<td>37.6</td>
</tr>
<tr>
<td>Net movement in cash and cash equivalents</td>
<td>180.5</td>
<td>18.9</td>
</tr>
</tbody>
</table>

Full year ended 31 December

46 Croda International Plc Annual Report and Accounts 2022
Alternative Performance Measures (APMs)

We use a number of APMs to assist in presenting information in this report in an easily analyzable and comparable form. 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 report include:

- **Constant currency results**: these reflect current year performance for existing business translated at the prior year’s average exchange rates and include the impact of acquisitions. 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. Constant currency results are reconciled to reported results in the Finance Review. The APMs are calculated as follows:
  - For constant currency profit, translation is performed using the entity reporting currency;
  - 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 comparisons. 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;

- **Adjusted results**: these are stated before exceptional items and amortisation of intangible assets arising on acquisition, and tax thereon. Exceptional items are those items that in the Directors’ view are required to be separately disclosed by virtue of their size or incidence. Movements in contingent consideration have been presented as exceptional as they are not directly representative of the underlying business performance in the period and therefore this presentation provides a meaningful basis to make comparisons between reporting periods. The gain on business disposal and impairment charges have been presented as exceptional due to their size and one-off nature. The Board believes that the adjusted presentation (and the columnar format adopted for the Group income statement) assists shareholders by providing a 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:

- **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 Group Performance 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, earlier goodwill written off to reserves and accumulated amortisation of acquired intangible assets. 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 out in the Finance Review, with its aim being to maintain a ROIC of two to three times the cost of capital over the cycle, and that it is useful to shareholders in assessing the 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 calculated in line with the banking covenant definition. 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 EBITDA less movements in working capital, net capital expenditure, payment of lease liabilities, non-cash pension expense, and interest and tax payments. 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.
Key performance indicators

The top half of the page shows our key performance indicators which are reviewed regularly by the Board and executive leadership to monitor Group performance, and are linked to executive remuneration. Other metrics relevant to the implementation of our strategy, including our sustainability strategy, are shown across the bottom.

Sustainability

**Scope 1 & 2 emissions**

**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 a 2018 baseline.

**Performance:**
Since 2018, our baseline year, our total scope 1 and 2 GHG emissions have reduced by 19.8%. Within this, scope 1 emissions have increased by 6% and we have seen a 77% reduction in scope 2 emissions. This has been driven by a switch to renewable electricity across our manufacturing sites. We remain on track to achieve our Science Based Target, reducing our emissions in line with limiting the global temperature rise to 1.5°C above pre-industrial levels. For more detail see pages 23-25 of our Sustainability Report.

1. We have restated our historical scope 1 & 2 carbon emissions, removing the divested PTIC operations. Our carbon reduction targets have been re-baselined to ensure our level of ambition remains unchanged. Read more on page 40 of our Sustainability Report.

**Land area saved**

**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 200,000 hectares per year more than in 2019.

**Performance:**
In 2022 the use of our agricultural ingredients and new technologies saved 53,486 hectares of land compared to our 2019 baseline of 92,223 hectares, translating to a total land saving of 145,709 hectares in 2022. 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. Read more on page 29 of our Sustainability Report.


Progress against our Commitment in 2022

**Climate Positive**
We continue to deliver absolute scope 1 and 2 emission reductions in line with the trajectory of our Science Based Target (SBT) and have seen the first scope 1 reductions in 2022 arising from new decarbonisation investment. However, our Climate Positive ambition goes beyond decarbonising our own operations and supply chain, aiming for our products to help customers and consumers avoid four times the carbon emissions (scope 1, 2 & upstream scope 3) associated with our business (our Carbon Cover ratio) by 2030. In 2022, 687,926 tonnes CO₂e were avoided through the use of our ingredients, giving a carbon cover ratio of 0.66:1. Additionally, by 2030, over 75% of our raw materials by weight will be bio-based, absorbing carbon from the atmosphere as they grow. On an ongoing basis (adjusting for the divestment of PTIC) our bio-based raw materials as a proportion of total volumes increased from 57% to 59% in 2022.

**Land Positive**
Compared to our 2019 baseline we have saved 53,486 hectares of land through the application of our technologies. In addition to the land saved target we aim to bring an average of two crop technological breakthroughs to market each year until 2030. In 2022, we brought two such innovations to market which protect biodiversity and mitigate the impact of changing climate and land degradation, bringing our total launched since 2020 to four.

We acknowledge that our business activities have impacts on nature and are committed to addressing them, announcing in 2022 our aspiration to be Net Nature Positive by 2030. As a member of the Science Based Target Network corporate engagement programme, we have worked in 2022 to better understand how each of our major manufacturing sites, key bio-based raw materials and crop and seed technologies positively or negatively impact biodiversity and nature.
Purpose and Sustainability Commitment (PSC) Score

68%

In 2022 we started to measure employees’ engagement with our Purpose and Sustainability Commitment (PSC), leading to the creation of the PSC score. This is used internally to understand employee sentiment and how we can make Croda a better place to work, and will be reported as a non-financial KPI in future years. Further detail on the implementation of the PSC score can be found on page 20.

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

Target:
Improve the PSC score by 8 percentage points against the 2022 baseline by 2025.

Performance:
Our baseline score for 2022 is 68%, with a participation rate of nearly 80%. The overall score is ‘good’ with encouraging scores in areas such as employees enjoying their work and those who would recommend Croda as a great place to work. There are areas that require improvement, including colleagues feeling their workload is manageable and ensuring we learn from mistakes without placing blame.

Total recordable injury rate

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 marginally to 0.74 (2021: 0.76 restated). Injury rates at the sites of recently acquired businesses are typically higher than established Croda sites and the underlying TRIR excluding sites acquired less than three years ago is 0.63. Reducing injury rates at both existing Croda sites and newly acquired sites is a top priority. Read more about performance and safety initiatives on page 21.

People Positive

Our People Positive commitment impacts both our employees and wider society. In 2022, through the use of our solar protection ingredients, Croda contributed to protecting more than 61 million people from potentially developing skin cancer caused by harmful UV rays. This is seven years earlier than our 2030 target to protect at least 60 million people annually. We are also moving closer to our target of contributing to the successful development and commercialisation of 25% of WHO-listed pipeline vaccines and have achieved our 2024 milestone of ten clinical phase III trials two years ahead of schedule. Having established Croda Foundation in 2021 to help sustainably improve one million lives, by the end of 2022, 300,000 lives had been sustainably improved with 14.9 million lives benefitting in some way from Croda Foundation projects.

Fundamentals

The Fundamentals element of our Commitment represents the social licence required for a multinational company such as Croda to operate in 2030. Across the nine Fundamental objectives, we have identified some notable activities and progress in 2022. To enable us to meet our personal safety targets, we focused attention on the theme of ‘Safety is a Value’ with leadership teams across Croda. In a year where cost-of-living dominated public discussion around the globe, we confirmed that all employees globally receive the Living Wage in their country as a minimum and began the process of ensuring all our regular contractors are paid a Living Wage to meet our 2024 milestone. We updated our Supplier Code of Conduct and introduced Supplier Scorecards to raise the profile of environmental integrity and social accountability in our upstream supply chains, and are working with several supply chain consortia to increase transparency and drive action to improve environmental and social outcomes particularly for farmers in our crop-based supply chains.
Key performance indicators continued

Innovation

New and Protected Products sales %

<table>
<thead>
<tr>
<th>Year</th>
<th>NPP Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>27.6%</td>
</tr>
<tr>
<td>2018</td>
<td>28.2%</td>
</tr>
<tr>
<td>2019</td>
<td>28.1%</td>
</tr>
<tr>
<td>2020</td>
<td>27.4%</td>
</tr>
<tr>
<td>2021</td>
<td>36.6%</td>
</tr>
<tr>
<td>2022</td>
<td>34.7%</td>
</tr>
</tbody>
</table>

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 NPP is our established KPI for innovation. Historically the KPI has been defined as sales from NPP as a proportion of total sales in constant currency.

The list of New and Protected Products is reviewed annually, in line with the Group’s policy. This process is overseen by a non-Executive Director before approval by the Remuneration Committee.

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 from NPP has grown over the last decade from 20.5% in 2012. There was a significant increase in 2021 to 36.6% following the Avanti and Iberchem acquisitions, and strong sales of lipid systems for COVID-19 applications. The small reduction to 34.7% in 2022 reflects lower lipid systems sales and strong growth in Crop Protection which has a lower proportion of NPP.

NPP is a KPI that is used for remuneration. Going forwards, the NPP measure will focus on growth in NPP over the performance period, rather than growth relative to non-NPP sales. As well as simplifying the measure, the new approach reflects the importance of our non-NPP sales, especially those relating to sustainable products. In 2022, NPP sales grew at 2.6% in constant currency, adjusting for the impact of the PTIC divestment.

Read more about the important role that innovation plays in creating new market and technology niches on pages 22 and 23.

Delivering innovation in 2022

Our innovation partners are a core part of our innovation ecosystem and our collaboration with universities and SMEs helps drive innovation and grow NPP sales. We continue to build our Open Innovation network, particularly in priority areas such as Pharma, and in 2022 added 11 innovation partners and initiated 10 innovation projects. Our Open Innovation network is global, with new innovation partners in Brazil, South Africa and India, as well as a growing network in the United States, enabling us to leverage the ideas, expertise and resources that exist in all regions.

Innovation priorities include investing in biotechnology and sustainable chemistry, and accelerating the delivery of platform technologies in areas such as synthetic biology, biocatalysis, and downstream processing. Biotech innovation is led by five specialist biotechnology facilities, with increasing expertise and better collaboration from across the Group leading to the launch of novel ingredients that are derived from plant and marine sources.

As we pursue more sustainable manufacturing processes, while continuing to meet performance expectations, in 2022 we acquired intellectual property that will help us transition to manufacturing key Beauty Actives ingredients using more sustainable techniques.

Open innovation partners and initiated projects

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of projects initiated</th>
<th>No. of partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-15</td>
<td>61</td>
<td>269</td>
</tr>
<tr>
<td>2016</td>
<td>172</td>
<td>146</td>
</tr>
<tr>
<td>2017</td>
<td>269</td>
<td>170</td>
</tr>
<tr>
<td>2018</td>
<td>352</td>
<td>200</td>
</tr>
<tr>
<td>2019</td>
<td>421</td>
<td>231</td>
</tr>
<tr>
<td>2020</td>
<td>456</td>
<td>266</td>
</tr>
<tr>
<td>2021</td>
<td>501</td>
<td>548</td>
</tr>
<tr>
<td>2022</td>
<td>559</td>
<td>559</td>
</tr>
</tbody>
</table>
Delivering consistent outperformance

### Sales growth (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>2.9%</td>
</tr>
<tr>
<td>2019</td>
<td>-2.6%</td>
</tr>
<tr>
<td>2020</td>
<td>1.1%</td>
</tr>
<tr>
<td>2021</td>
<td>43.2%</td>
</tr>
<tr>
<td>2022</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

**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 growth in 2022 was 5.2%, comprising underlying growth of 4.6% and acquisition impact of 0.6%. Underlying growth was principally driven by price/mix, with successful recovery of input cost inflation more than offsetting volume declines that were principally driven by the PTIC divestment. Underlying sales growth was 8.7% in Consumer Care and 13.9% in Life Sciences.

### Return on invested capital (ROIC) (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>ROIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>19.2%</td>
</tr>
<tr>
<td>2019</td>
<td>17.0%</td>
</tr>
<tr>
<td>2020</td>
<td>14.6%</td>
</tr>
<tr>
<td>2021</td>
<td>14.2%</td>
</tr>
<tr>
<td>2022</td>
<td>14.1%</td>
</tr>
</tbody>
</table>

**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 and accumulated amortisation of acquired intangible assets.

**Target:**
ROIC of at least twice two times cost of capital.

**Performance:**
The post-tax return on invested capital (ROIC) was broadly flat at 14.1% (2021: 14.2%), with good profit growth offsetting an increase in average invested capital, partially due to the inclusion of a post-tax asset on retirement benefits plan of £75m.

### Return on sales (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>ROIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>272.0p</td>
</tr>
<tr>
<td>2019</td>
<td>250.0p</td>
</tr>
<tr>
<td>2020</td>
<td>175.5p</td>
</tr>
<tr>
<td>2021</td>
<td>250.0p</td>
</tr>
<tr>
<td>2022</td>
<td>272.0p</td>
</tr>
</tbody>
</table>

**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 over 30% in Life Sciences.

**Performance:**
Group return on sales was broadly flat at 24.7% (2021: 24.8%). This reflects an improved margin mix from the reduced share of industrial sales and a lower variable remuneration charge offset by normalisation of the Life Sciences margin, after an exceptional 2021, and a lower Consumer Care margin due to the gearing effect of lower volume and a weaker product mix.

### Adjusted basic earnings per share (pence)

<table>
<thead>
<tr>
<th>Year</th>
<th>EPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>190.2p</td>
</tr>
<tr>
<td>2019</td>
<td>185.0p</td>
</tr>
<tr>
<td>2020</td>
<td>175.5p</td>
</tr>
<tr>
<td>2021</td>
<td>250.0p</td>
</tr>
<tr>
<td>2022</td>
<td>272.0p</td>
</tr>
</tbody>
</table>

**Definition:**
Adjusted profit after tax divided by the average number of shares in issue.

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

**Performance:**
Adjusted earnings per share increased by 8.8% to 272.0p. This growth was driven by good profit growth across all sectors, partially offset by a marginal increase in the tax rate on adjusted profit to 22.8% (2021: 21.2%).

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For more information, see the Finance review Pages 44-47

Key
- Links to bonus remuneration
- Links to PSP remuneration

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For more information, see the Finance review Pages 44-47

Key
- Links to bonus remuneration
- Links to PSP remuneration

---

For more information, see the Finance review Pages 44-47

Key
- Links to bonus remuneration
- Links to PSP remuneration

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For more information, see the Finance review Pages 44-47

Key
- Links to bonus remuneration
- Links to PSP remuneration

---

For more information, see the Finance review Pages 44-47

Key
- Links to bonus remuneration
- Links to PSP remuneration
**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 53), 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, that also have standing agenda items to review and monitor internal and external emerging risks; IT and cyber risks; internal audit and safety, health, environmental (SHE) 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 is in place to manage significant risk events, is owned by the Executive Committee, and is tested at least annually using risk scenarios.
- 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.

For more information on our risk management framework
See page 53

For information on our approach to managing climate-related risks
See page 62

**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 which evolution is highly uncertain.

The Risk Committee reviews emerging risks and opportunities from internal and external sources on its quarterly meetings and consider 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 Energy crisis case study on page 54).
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.

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 Group Finance Director
- 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 Global 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 and Company Secretary
- 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 2021, 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 2021 remain relevant and no new principal risks were identified. The following principal risks were identified as heightened relative to 2021:

- Revenue generation: This risk has increased in likelihood and impact as greater geopolitical instability, rising inflation and slowing economic growth increased uncertainty. Our powerful business model has allowed us to continue to manage this risk effectively by recovering the significant inflation that persisted throughout 2022. After a period of strong market growth, there are some signs of macroeconomic slowdown in some regions facing a cost of living squeeze, which could impact our ability to deliver short-term growth in consumer-facing markets. More detail on this can be read in the case study on the right of this page.

- Security of business information and networks: The conflict in Ukraine highlights the increased risk of geopolitical disputes. One impact of this can be an increase in state-sponsored cyber-attacks, increasing risk to computer networks and systems.

- Our people – culture, wellbeing, talent development and retention: Competitive labour markets and the cost-of-living crisis in some regions increase the risk of not attracting and retaining necessary talent. To successfully control that risk, we are investing in talent development, enhanced benefits according to regional needs and providing financial support to counter the increase in employees’ cost of living.

The following principal risk was identified as having reduced relative to 2021:

- Loss of significant manufacturing site (major safety or environmental incident): This risk has decreased after the successful divestment of two of our large industrial sites in 2022, reducing the number of high hazard processes within the Company. In addition, capital investments in several sites in more sustainable and safer technologies, such as biofuel steam raising boilers which displace natural gas, and the introduction of continuous processes which are inherently safer and more efficient than old batch technologies, have also contributed.

Business model resilience in an inflationary economy

The COVID-19 pandemic, followed by the conflict in Ukraine, created an environment of geopolitical and macroeconomic uncertainty. Stressed supply chains, high inflation, slowing economic growth and increasing geopolitical tensions are a few of the resulting factors with the potential to impact the performance of businesses, including Croda.

Croda’s revenue and profit across all sectors and regions in 2022 give us confidence in the resilience of our business model. During the year, we were able to recover increases in raw material, freight, energy and employee costs. This shows that, in most cases, we can protect our profitability in an inflationary environment as our business model doesn’t rely on a small number of customers and products but on a broad range of technologies that serve multiple niche markets where our leadership in innovation and sustainability is more important than prices.

Energy crisis

Uncertainty concerning the gas supply to Europe has led to high energy prices with risk of gas and the threat of energy rationing in several European countries. We evaluated the risk for a scenario of limited gas supply and periods of energy blackout during winter months considering:

- The operation of our potentially affected manufacturing sites, IT systems and offices
- Our raw material security, considering location of key suppliers
- Rising energy cost impacts on our employees and potential disruption of social services (e.g. schools closing early).

We have also considered opportunities arising from competitors located in areas of higher likelihood of being affected.

Considering the impact and likelihood of this scenario, we did not classify it as a principal risk but as an emerging risk. A key risk indicator was defined and has been continuously monitored to determine the velocity of the risk. In case it achieves the defined threshold, it will trigger our Crisis Management Plan.

For more on principal risks
See pages 55-58
Strategic report

Principal risks

1. Revenue generation

2. Product and technology innovation and protection

President Regional Delivery and Sector Presidents

Nick Challoner
Group Chief Scientific Officer

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 strategic objective. Acquisitions of adjacent technologies will dilute growth if they are not effectively integrated.

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

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. Our resilient business model and continued focus on growing profit ahead of sales ahead of volume mitigates profit impact in difficult trading conditions.

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. We invest in: R&D, Open Innovation and Smart Partnership programmes, developing premium niches and disruptive technology acquisitions. Our specialist IP team protects new products and technologies, defending our IP and challenging third-party IP where appropriate.

What we have done in 2022

- Commissioned a manufacturing facility in Brazil for F&F, one of the largest markets for fragrances globally
- Extended the geographical reach of recent acquisitions Alban Muller and Parfex, leveraging the wider Consumer Care sales network
- Educated our selling teams in the technologies that will deliver growth in our Pharma business over the coming years, developing a pipeline of projects across the globe
- Invested in capital expenditure for growth at our manufacturing sites, specifically in high value technologies
- Developed our expertise in long-term innovation allowing the continued development of new technology platforms in sustainable polymers and novel actives, as well as identifying four specific big bet projects representing near-term opportunities underpinned by these platforms
- Invested in new technical resources, capabilities and locations supporting the development of our Pharma business in the areas of nucleic acid delivery, small molecule/protein delivery and vaccine adjuvants
- Further developed our approach to sustainable innovation leading to practical outcomes in market-led ingredient development with improved biodegradability, increased bio-based content and lower environmental impact

Key

Link to our strategy (page 22)
- Sustainability
- Innovation
- Growth

Risk movement
- Risk increase
- No change
- Risk decrease
- Included in viability statement (see page 59)

Link to our business model (page 14)
- Engage
- Create
- Make
- Sell

Crona International Plc Annual Report and Accounts 2022 55
Risk continued

Strategic continued

Principal risks

3. Digital technology innovation

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.

Jez Maiden
Group Finance Director

4. Delivering sustainable solutions – Climate and Land Positive

We have made a bold Commitment to be Climate and Land 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 demands, making sustainability as important to consumer choice as price.

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.

Nick Challoner
Group Chief Scientific Officer

5. Management of business change

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.

Steve Foots
Group Chief Executive

How we respond

Our digital specialist teams focus on our business model areas of Create, Make and Sell and provide global leadership to take advantage of the fast-evolving digital world. They deliver an integrated market-facing environment that encompasses everything from product development through artificial intelligence-enabled manufacture, to delivering customer service. Digital pilot projects embedded in the organisation support agile, local trials of innovative ideas, which can grow into global roll outs.

Our sustainability team, led by our Chief Sustainability Officer, maintains the organisation’s focus whilst the targets and accountability for delivery are embedded within the business. The Sustainability Committee, which meets quarterly, has representatives from all functions and sectors who work together to deliver our sustainability targets. We see more opportunity than risk in climate change.

The Board and Executive have oversight of the strategic change programme and receive regular updates of 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 2022

- Create: Successfully delivered the first phase of our digital platform for knowledge management in R&D
- Make: Global process owner in place for demand to supply, prioritising supply chain efficiency
- Sell: Successful pilot of customer self-serve ordering portal. Rollout to start in 2023
- Developed decarbonisation plans for our manufacturing sites and major office locations, which were externally validated, supporting the carbon reduction targets required to meet our 2030 commitments
- Elevated our engagement and impact on sustainability-led matters by being invited to join the World Business Council for Sustainable Development
- Built on the success against our Land Positive targets and developed early-stage plans for becoming Nature Positive, thus broadening our scope of activity in the area of biodiversity
- Built sustainability targets into our senior level long-term incentives
- Completed the sale of the majority of the PTIC business
- Progressed our integration of Iberchem, supporting growth synergy delivery
- Implemented dedicated structure to manage significant change programmes and appointed programme directors
- Ran leadership development programmes with focus on change management
People and culture

Principal risks

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

Tracy Sheedy
Group Human Resources Director

- 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.

7. Product quality

Mark Robinson
President Global Operations

- 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.

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

Mark Robinson
President Global Operations

- 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. 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.

What we have done in 2022

- Implemented improved global talent management process
- Full range of leadership development programmes updated and rolled out in 2022
- Enhanced regional benefits to compensate employees for increasing cost of living
- Review of global reward programmes following the implementation of the Free Share Plan to further share reward across the organisation
- Established a global Diversity & Inclusion Steering Committee and a number of regional and country committees designed to discuss and promote diversity & inclusion
- 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
- Sale of the majority of PTIC business reduced our high hazard processes by 21%
- Introducing biofuel steam-raising boilers on several sites displacing natural gas
- Introducing continuous processes in several plant areas which are more inherently safe than old batch technology
- Process Risk Review peer review programme has yielded a greater understanding of risk dominating scenarios and enabled action to implement further risk reduction measures
- Several sites are reaching higher process safety maturity and using leading metrics to drive down risk
- Senior Leadership Team commitment to improving SHE performance (more detail on this can be read on page 21).
External environment

Principal risks

9. Ethics and compliance

Tom Brophy
Group General Counsel

We are subject to UK ethics legislation which is far-reaching in terms of global scope and often more rigorous than local legislation (for example, the UK Bribery Act).

Our increased presence in emerging economies and increasing introduction of new regulation create an elevated compliance and reputational risk.

Our Group Ethics Committee meets quarterly to consider new legislation requirements and to promote the importance of ethics and compliance across our business and stakeholder ecosystem.

Compliance training and education programmes are rolled out globally, with results monitored by the Committee.

Our Audit Committee reviews the effectiveness of the Group’s anti-bribery and fraud procedures on an annual basis.

• Continued with the ethics integration of newly acquired companies, with particular focus on those in emerging markets with associated higher ethical risks
• Added newly acquired businesses into our ethics KPIs and improved the quality of information that feeds into the KPI dashboard
• Iberchem appointed a dedicated Compliance Manager to help integrate Iberchem within the Croda ethics framework
• Published a booklet summarising our approach to responsible and ethical business conduct. This is available on the Croda website to aid our stakeholders in understanding our ethics programme
• Undertook over 16,000 third-party reputational screenings
• Reported to the Board on the ethical compliance programme

10. Security of business information and networks

Jez Maiden
Group Finance Director

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.

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 cyber awareness education globally, whilst internal and external auditors review and report on the operation of cyber and system controls annually.

Why this matters to us

How we respond

What we have done in 2022

• Responded to an increase in risk from the threat of cyberattacks to all business and organisations
• We further strengthened our control environment and invested to build internal capability within our dedicated information security team
• Information Security programme performance has been good with no major cyber security incidents recorded
Long-term viability statement

Confirmation of viability
Based on their assessment of 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 2025. The Directors also considered it appropriate to prepare the financial statements on a going concern basis, as explained in the Group accounting policies (page 164).

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.

In 2021, we adopted a new strategy to become a ‘pure play’ Consumer Care and Life Sciences company. With the intent to have a stable goal, we adopted 2026 as a fixed horizon for our annual strategic plan, with rolling three year detailed financial modelling being prepared. 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, energy inflation, raw material price changes and ongoing pandemic restrictions. 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 164.

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 2022 of 0.5x remains substantially below the maximum covenant level under the Group’s debt facilities of 3.5x. Based on 2022 results, stress testing assesses that EBIT would need to fall by 96% 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, there is no plausible scenario which endangers compliance with this covenant);
- Unused committed liquidity headroom: as at 31 December 2022 over 95% of current committed debt facilities of £1,122.5m mature after the end of the viability period, with current committed unused headroom of £579.3m (see financial review on page 44 for more details). 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 scenario or scenario combinations was found to endanger the liquidity or covenant requirements over the viability period.

The key scenarios tested were as follows:

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Key assumptions</th>
<th>Principal risks</th>
<th>Scenario combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>New entrants or enhanced competition in our market space make significant inroads into our business.</td>
<td>Loss of business in Consumer Care, Life Sciences and Industrial Specialties.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Regulatory or reputational issues affecting individual products or product groups.</td>
<td>Loss of contribution from significant products.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Disruptive production or digital customer interaction technologies are brought to the market by competitors and we lose competitiveness.</td>
<td>Loss of business in a major technology platform and competitive attrition within Consumer Care and Life Sciences customers.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Regional geopolitical upheaval results in the global economy moving into recession, with significant business loss.</td>
<td>Lower sales, with greater impact in Consumer Care than in Life Sciences reflecting the different levels of exposure to discretionary income.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Failure to secure supply of raw materials.</td>
<td>Loss of contribution from products affected by lack of constrained raw materials.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Catastrophic incident leading to complete loss of a manufacturing site.</td>
<td>Uninsured loss of major manufacturing site resulting in lost margin for an extended period.</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Major ethics and compliance breach leading to government investigation and fine.</td>
<td>Loss of business due to reputational damage, in addition to cost of fines and legal expenses.</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Loss of main ERP system for prolonged time.</td>
<td>Loss of contribution margin during the ERP outage, mitigated by business continuity actions.</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Cyber attack.</td>
<td>A significant cyber attack damages reputation and results in disruption of processes, in addition to costs of data recovery.</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Fall to demonstrate delivery against sustainability commitments.</td>
<td>Reputational damage, leading to loss of business in all sectors.</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Product quality failure leading to a product recall.</td>
<td>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.</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Fail to deliver expected benefits from acquisitions.</td>
<td>Commercial synergies from recent acquisitions (e.g. F&amp;F) are not realised.</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Persistent inflation combined with failure to recover cost increases in the market.</td>
<td>Partially absorb increases in raw material and freight costs.</td>
<td>1</td>
<td></td>
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</tbody>
</table>

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

Principal risks
Non-financial disclosure

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 Climate Positive Commitment to 2030 (page 12).

On pages 60 to 68 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. We also reference links to further information which can be found in our Annual Report, Sustainability Report (SR) and online factsheets to support compliance. We cross refer to our Sustainability Report throughout this TCFD section as that report offers us additional space to explain our strategic Climate Positive commitment, illustrate this through case studies (SR pages 22-27) and explain our targets, metrics and progress in more detail (SR pages 36-39). We continue to work to remain aligned with evolving climate and non-financial disclosure requirements as required by the Listing Rules.

Governance

<table>
<thead>
<tr>
<th>How we comply</th>
<th>What we have done in 2022</th>
<th>Next steps and timeframes supporting further improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Describe the Board’s oversight of climate related risks and opportunities</strong></td>
<td>As one of the three pillars of our Commitment (page 12), 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 81. 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 (page 78) which considers progress against climate targets, including the risks to delivering these in the highlights and lowlights sections of the report. 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 107). 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.</td>
<td>Board considered sustainability strategy and targets including sustainability of innovation technology platforms (pages 75). As part of a focus in 2022 on sustainability (page 81) the Board undertook a review of corporate level risks and opportunities associated with climate, considered future compliance with rapidly changing reporting frameworks and progress towards delivering 2030 targets. Review of major capital expenditure considered the impact of new technology on our net zero carbon ambition (Dahej case study on page 81). The Audit Committee considered the results of the FRC’s review covering TCFD disclosures and climate in the 2021 Annual Report (page 99).</td>
</tr>
</tbody>
</table>

| b) Describe management’s role in assessing and managing climate related risks | The Board delegates responsibility for running the business to the Chief Executive, which includes responsibility for managing climate related issues. A sub-committee of the Executive, the Sustainability Committee, meets at least quarterly (page 87) chaired by the Chief Sustainability Officer, who is supported in this role by an internal centre of excellence, 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 to develop and coordinate group wide engagement with our sustainability targets. Our global Sustainability Professionals Network and local sustainability champions facilitate best practice sharing throughout the organisation and are supported by the Group Sustainability team. Our organisation structure is included on page 17 of the Sustainability Report. Through our risk management framework (page 52) climate related risks are captured, assessed, mitigated and owned at the appropriate level of the organisation. | Created our global Sustainability Professionals Network, described on page 14 of our Sustainability Report. Sustainability champions supported the development of decarbonisation roadmaps for every Croda location. Invited all Croda employees to regional carbon summit webinars, presenting an update on our decarbonisation progress and initiatives and answering questions. | More completely define the role of sustainability champions in cascading communication on climate throughout the organisation. Review the terms of reference and composition of the Sustainability Committee in the light of Croda’s strategy to become a pure play Consumer Care and Life Sciences company. |

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### Strategy

#### a) Describe the climate related risks and opportunities the organisation has identified over the short, medium and long term

<table>
<thead>
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<tbody>
<tr>
<td>Our definition of short, medium and long-term time horizons is included on page 63 and are aligned with our strategic commitments to 2030, with milestones for delivery set for 2024. Climate related, physical and transitional risks and opportunities are assessed using our global risk framework, described on page 53 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 66 of this report, together with a summary of other less impactful risk themes identified from our bottom-up risk registers.</td>
<td>The Sustainability Committee reviewed all climate related risks identified from our bottom-up risk registers, and engaged the global operations team in discussion of these risks, identifying actions for further improvement and clarity.</td>
<td>Using the bottom-up risk themes identified in 2022, we will undertake a detailed review of all risk assessments with the risk owners to align assessments globally and to challenge the mitigating controls identified at local level.</td>
</tr>
</tbody>
</table>

#### 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 56. The financial impact of the four highest risks in our register is described in more detail on pages 66 to 68 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 (SR page 24). 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 (SR page 24). 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 164. All sites have now defined a ‘decarbonisation roadmap’ (see page 24 of the Sustainability Report for more details) which will be used to direct future capital and development plans. Shadow carbon price was increased from £55/tonne to £124/tonne in line with the UK Government’s Green Book, highlighting the increasing importance of taking action to avoid exposure to the cost of carbon (see page 24 of the Sustainability Report for more details). |

| A full review of the impact of climate change on fixed asset useful economic lives was completed in 2022, which concluded no material changes were required (page 164). All sites have now defined a ‘decarbonisation roadmap’ (see page 24 of the Sustainability Report for more details) which will be used to direct future capital and development plans. Shadow carbon price was increased from £55/tonne to £124/tonne in line with the UK Government’s Green Book, highlighting the increasing importance of taking action to avoid exposure to the cost of carbon (see page 24 of the Sustainability Report for more details). |

#### c) Describe the resilience of the organisation’s strategy, taking into consideration different climate related scenarios

Supported by external consultants, Accenture, we undertake 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 63. |

In 2022 the Sustainability Committee reviewed the climate related risks to confirm those with the highest impact, for which scenario analysis was repeated (page 68). Baseline assessments and all scenarios were updated to reflect the divestment of the PTIC business. Although some changes were identified we concluded these would not materially impact our Climate Positive strategy.

| Begin developing net zero roadmaps based on technology platforms, in addition to the individual site level roadmaps, to support the transformation and future preparedness of our business to grow. |

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*Croda International Pte Annual Report and Accounts 2022*
Risk management

<table>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Describe the organisation’s processes for identifying and assessing climate related risks</strong></td>
<td>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 53. 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.</td>
<td>Regulations are changing rapidly at present and we have worked with external consultants to identify those which are relevant to Croda to enable us to assess the opportunities and risks relating to the changes.</td>
</tr>
<tr>
<td><strong>b) and c) Describe the organisation’s processes for identifying and managing climate related risks, and how these are integrated into the organisation’s overall risk management</strong></td>
<td>Our group risk framework, described on page 53, 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.</td>
<td>During 2022 the Risk Committee (page 53) received a presentation from the Chief Sustainability Officer on management of climate related risks as part of a focus review of sustainability risks. In addition, the Sustainability Committee undertook a full review of the local climate related risks, identifying some regional inconsistencies which will be addressed in 2023. We recruited a Group ESG Reporting Manager (SR page 19) to work with the pillar owners and sites to further embed risks, mitigating actions and controls.</td>
</tr>
</tbody>
</table>
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 62 and 66 of this report.

### Three climate scenarios

<table>
<thead>
<tr>
<th>Description</th>
<th>Orderly</th>
<th>Disorderly</th>
<th>Hot House World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumptions</td>
<td>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.</td>
<td>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.</td>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SSP scenarios</td>
<td>SSP 1-2.6</td>
<td>SSP 2-4.5</td>
<td>SSP 5-8.5</td>
</tr>
<tr>
<td>Orbitas scenarios</td>
<td>Co-ordinated Projects</td>
<td>-</td>
<td>BAU Projections</td>
</tr>
<tr>
<td>Estimated 2100 warming</td>
<td>1.5-2°C</td>
<td>2-3°C</td>
<td>3°C+</td>
</tr>
</tbody>
</table>

### Three time horizons:

- **Short-term:** to end 2025, this is aligned with our time horizon used in our viability assessment (page 59) with our interim sustainability milestones focused on delivery by or ahead of this date.
- **Medium-term:** to end 2030, this is aligned to our Commitment to be Climate, Land and People Positive by 2030.
- **Long-term:** to end 2050, this is aligned to 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:

<table>
<thead>
<tr>
<th>Risk impact score</th>
<th>Financial Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Opportunity – Minor Impact</td>
</tr>
<tr>
<td>3-4</td>
<td>Low – Moderate Impact</td>
</tr>
<tr>
<td>5-6</td>
<td>High – Critical Impact</td>
</tr>
</tbody>
</table>

### Building the scenarios:

The 2021 CSA model was used as a starting point with several steps taken to refine and refresh the analysis. The starting basis was updated to use actual financial and process data for 2021, re-baselined 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 were convened to review 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.

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 67 and 68.

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 currently planned 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.
Non-financial disclosure continued

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

Metrics and targets

<table>
<thead>
<tr>
<th>How we comply</th>
<th>What we have done in 2022</th>
<th>Next steps and timeframes supporting further improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Disclose the metrics used by the organisation to assess climate related risks and opportunities in line with its strategy and risk management process</td>
<td>A detailed description of the targets and our performance against these in 2022 is included in our Sustainability Report on pages 36, 39 and 40. As part of our due diligence around the divestment of the majority of the Performance Technologies and Industrial Chemicals business in June 2022 we rebaselined all relevant sustainability metrics back to our baseline year of 2018 and reviewed our 2030 targets (see case study in our Sustainability Report page 40). In every case we decided to maintain or increase the level our target ambition. Increased the shadow carbon price applied to capital expenditure proposals from £55/tonne to £124/tonne in line with UK Government recommendation.</td>
<td>Develop dashboards to next level of detail to make metrics and targets more transparent at regional and sector levels in addition to Board and Executive level reports. Complete detailed assessment of our current metrics against TCFD and emerging ISSB recommendations.</td>
</tr>
<tr>
<td>Emissions metrics are recorded in our Sphera system by all Croda locations globally and this is the single source of data for reporting of these metrics. We include the ‘reducing emissions’ metric in our key metrics on page 48 and these are externally verified by Avieco (part of Accenture). The Remuneration Committee includes sustainability targets in the Performance Share Plan for senior executives currently relating to 10% of the award. In 2022 the targets selected related to reduction of scope 1 and 2 emissions, aligned with our external commitment to achieve a SBT in line with a 1.5°C pathway and the development of decarbonisation roadmaps (page 107).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Disclose scope 1, scope 2 and, if appropriate, scope 3 greenhouse gas emissions and the related risks</td>
<td>Developed corporate scope 3 dashboards to increase transparency of emissions data. Initiated carbon accounting to provide sectors with product carbon footprint data for the majority of our product portfolio.</td>
<td>Develop net zero roadmaps based on technology platforms rather than individual site level to support the transformation and future preparedness of our business.</td>
</tr>
<tr>
<td>Scope 1, 2 and 3 greenhouse gas emissions and our calculation methodology are disclosed on page 65. These are verified by Avieco (part of Accenture). Their formal independent verification statement is available at <a href="http://www.croda.com/carbonverification">www.croda.com/carbonverification</a>, which 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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets</td>
<td>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 and are described in more detail on pages 36, 39 and 40 of our Sustainability Report. A detailed description of the targets and our progress towards these in 2022 is included in our Sustainability Report pages 36, 39 and 40. A full non-financial data pack has been developed and is available on our website at <a href="http://www.croda.com/sustainability">www.croda.com/sustainability</a>.</td>
<td>All non-financial metrics to be captured in Sphera in time for 2023 annual reporting, and to be fully linked to TCFD Appendices A1 and A2. Develop drill down reporting dashboards to ensure target delivery status is transparent across the Group. Achieve limited assurance of Climate Positive KPI’s for 2023.</td>
</tr>
<tr>
<td>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 and are described in more detail on pages 36, 39 and 40 of our Sustainability Report.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
We have restated our historical scope 1, 2 and 3 carbon emissions, removing the divested PTIC operations. Our carbon reduction targets have been re-baselined to ensure our level of ambition remains unchanged (see non-financial data pack for details). Since 2018, our baseline year, our total scope 1 and 2 greenhouse gas (GHG) emissions have reduced by 19.8%. Within this, scope 1 emissions increased by 6% and we have seen a greater than 77% reduction in scope 2 emissions. This has been driven by a switch to renewable electricity across our manufacturing sites.

Scope 1 and 2 GHG emissions from our UK operations were 17,271 TeCO₂e in 2022 (2021: 17,168 TeCO₂e) representing approximately 14% of our global GHG emissions.

In 2022, scope 3 emissions increased by 3% (see page 24 of our Sustainability Report for more detail).

Emissions intensity
Our chosen measure of GHG emission intensity divides our GHG emissions (market-based scope 2 emissions) by value added1, a measure of our business activity. The GHG emission intensity for 2022 has been calculated using verified scope 1 and scope 2 emissions data and estimated value added if the PTIC divestment had completed on 1 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 56% since 2018, illustrating how we are decoupling growth from our environmental impact.

Energy consumption and efficiency improvements
In 2022 we consumed 875,545,599 kWh (2021: 864,679,531 kWh) of energy across our global operations. This included 113,325,570 kWh (2021: 112,990,828 kWh) consumed by UK operations.

As part of our strategy to improve the efficiency of energy consumption, 26 projects were implemented globally, realising 17,180,619 kWh of annualised efficiency improvements, equivalent to 2,767 TeCO₂e 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 are market-based.
2. Value added is defined as operating profit before depreciation and employee costs 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.
Non-financial disclosure continued

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

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 53). Based on these bottom-up assessments, the Sustainability Committee complete an annual review and selected the four risks with the highest financial impact to investigate in more detail using scenario analysis. Based on the 2021 scenario analysis, the impact of climate on labour productivity was reduced, and this was not modelled in 2022. Following more detailed assessment undertaken throughout 2022, the impact of water usage was assessed as increased and therefore we have included water usage as a new scenario for assessment. We consider the geographical impact of these key risks below.

Transitional risks

<table>
<thead>
<tr>
<th>Climate risk</th>
<th>Description of risk/opportunity</th>
<th>Geographical impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of carbon pricing on our emissions</td>
<td>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.</td>
<td>Atlas Point is our largest contributor to scope 1 &amp; 2 emissions and when viewed with our other manufacturing sites in North America this region is the most material, accounting for c.50% of our scope 1 &amp; 2 emissions.</td>
</tr>
<tr>
<td>Impact of carbon pricing on the cost of utilities, particularly natural gas</td>
<td>The increasing cost of natural gas resulting from geopolitical issues in 2022 may increase further as a result of carbon pricing. Natural gas is a key utility used in our manufacturing process, accounting for 64% of our energy consumption.</td>
<td>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.</td>
</tr>
</tbody>
</table>

Physical risks

<table>
<thead>
<tr>
<th>Climate risk</th>
<th>Description of risk/opportunity</th>
<th>Geographical impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate change impact on the availability of natural raw materials</td>
<td>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. In 2022 palm oil derivatives formed 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.</td>
<td>The use of palm oil derivatised raw materials is fairly evenly spread across our operations in Asia, North America and Western Europe with each using 25 – 40% of our total purchased palm oil derivatives.</td>
</tr>
</tbody>
</table>

Water usage

| Description of risk/opportunity                                                                 | Geographical impact                                                                 |
| Changes in global climate can significantly increase/ decrease precipitation at a given location over time. Potential changes in precipitation and reduced rainfall over extended periods are likely to affect water stressed locations by causing droughts. This can impact regional water supply and have financial implications for local industry. | 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. |

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. These were considered by the Sustainability Committee and confirmed as lower impact in 2022.
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.

**Impact of carbon pricing on our emissions**

<table>
<thead>
<tr>
<th>Driver for assumptions</th>
<th>Risk profile and financial impact</th>
<th>Planned mitigations</th>
</tr>
</thead>
<tbody>
<tr>
<td>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) 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.</td>
<td>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.</td>
<td>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 has been externally validated by Avieco, part of Accenture.</td>
</tr>
<tr>
<td>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.</td>
<td>This is mitigated when following the planned emissions reduction trajectory in line with Croda’s current verified science based targets.</td>
<td></td>
</tr>
<tr>
<td>2025 2030 2050 (Worst case of Disorderly transition)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td>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.</td>
<td>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 and the in-progress upgrade of a boiler to enable the use of landfill gas (LFG) at our large manufacturing site in North America. As a material consumer, the latter will substantially reduce Croda’s overall exposure to natural gas pricing. (For further details see SR page 23)</td>
</tr>
<tr>
<td>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.</td>
<td>This is mitigated to low risk levels by implementing Croda’s current decarbonisation strategy, resulting in reduced usage of natural gas:</td>
<td></td>
</tr>
<tr>
<td>2025 2030 2050 (Disorderly transition after incorporating decarbonisation strategy)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Impact of carbon pricing on utilities, particularly natural gas**

<table>
<thead>
<tr>
<th>Driver for assumptions</th>
<th>Risk profile and financial impact</th>
<th>Planned mitigations</th>
</tr>
</thead>
<tbody>
<tr>
<td>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) 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.</td>
<td>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.</td>
<td>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 and the in-progress upgrade of a boiler to enable the use of landfill gas (LFG) at our large manufacturing site in North America. As a material consumer, the latter will substantially reduce Croda’s overall exposure to natural gas pricing. (For further details see SR page 23)</td>
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<tr>
<td>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.</td>
<td>This is mitigated to low risk levels by implementing Croda’s current decarbonisation strategy, resulting in reduced usage of natural gas:</td>
<td></td>
</tr>
<tr>
<td>2025 2030 2050 (Worst case of Disorderly transition)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Risk impact score**

| 1-2 | Opportunity – Minor Impact |
| 3-4 | Low – Moderate Impact |
| 5-6 | High – Critical Impact |

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Impact of climate change on raw material availability

Driver for assumptions
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 (see Sustainability Report page 20). 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)

Planned mitigations
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.

89.3% of our palm derivative purchases in 2022 were RSPO-certified and >95% of purchased volumes in 2021 were mapped back to either refineries, mills or plantations, working with ASD. For further details see page 20 of our Sustainability 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.

Water usage

Driver for assumptions
An initial assessment to identify the nine most at-risk sites was conducted using the WRI Aqueduct tool for baseline water stress and site-level water use data.

Forecasted precipitation data was collected under three SSP scenarios and the 12-month Standard Precipitation Index (SPI) was calculated to determine the occurrence of extreme drought conditions at each Croda site. Extreme drought conditions are correlated with low water supply and replenishment, affecting local industry. Extreme drought conditions were assumed to have financial implications on Croda’s water-stressed sites.

In the Hot House World and Disorderly Transition scenarios infer a similar level of warming by 2050 and this will have low financial implications for Croda from 2040 onwards.

2025 2030 2050
(Hot House World)

Planned mitigations
By following an orderly transition pathway, most costs associated with risk of water stress are mitigated and only minor financial implications are expected.

The outcome of this scenario analysis has demonstrated that there is no material financial risk associated with operating our sites in water stressed regions. However, as leaders in sustainability and as part of our social licence to operate, we plan to do more to support our local communities and the environment in which we operate. As part of our ambition to be Net Nature Positive by 2030 we are targeting a reduction in water use impact of 50%, focusing on sites in water stressed areas, including considering quality indicators and displacement effects. Our understanding of our water use impact both within our operations and upstream supply chain will present opportunities to support customers with their own nature targets and collaborate to ensure a greater positive impact for nature and society.
In accordance with the Non-Financial Reporting Directive the table below summarises 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 Report (SR) and online. Our Viability Statement on page 59 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 2022 we further revised our Supplier Code of Conduct and introduced our Supplier Scorecard to measure performance and help our suppliers understand any gaps that need to be addressed.

During 2022 there were no significant safety, health, environment or quality issues across our operations on which to report. Further information can be found in the Fundamentals factsheets on www.croda.com/sustainability/non-financialperformanceandreports.

<table>
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<tr>
<th>Reporting requirement</th>
<th>Some of our relevant policies</th>
<th>Read more about our impact and metrics</th>
<th>Annual Report page</th>
<th>Sustainability Report (SR) page; Factsheet (FS) online</th>
<th>Principal risks</th>
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<tbody>
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<td>Environmental matters</td>
<td>Supplier Code of Conduct&lt;sup&gt;2&lt;/sup&gt; Group SHE policy&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Process safety (TRIR)</td>
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<td></td>
<td>Environmental stewardship</td>
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<td>SR39; FS</td>
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<tr>
<td></td>
<td></td>
<td>Sustainable sourcing and supplier partnership</td>
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<td></td>
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<td>Employee matters</td>
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<td>Pages 20 &amp; 84</td>
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<td>Group policy on Training and Development&lt;sup&gt;2&lt;/sup&gt;</td>
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<td>Equal Opportunities policy&lt;sup&gt;1&lt;/sup&gt; Group SHE policy&lt;sup&gt;1&lt;/sup&gt;</td>
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<td>Health, Safety and Wellbeing</td>
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<td></td>
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<tr>
<td>Respect for human rights</td>
<td>International Human Rights policy&lt;sup&gt;2&lt;/sup&gt; Group policy on Discrimination&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Fair income (Living Wage)</td>
<td>Page 127</td>
<td>SR39; FS</td>
<td>Our people (page 57)</td>
</tr>
<tr>
<td></td>
<td>Code of Conduct&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Diversity and inclusion</td>
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</tr>
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<td></td>
<td>Guideline policy for Managing Diversity&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Pages 93-96</td>
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<td>Social matters</td>
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1. Available to employees via the Company intranet (Connect), not published externally.
2. Available to employees via the Company intranet (Connect) and published on www.croda.com.