

News Release

Thursday 27th May 2021, 7.00 am

Preliminary results for the year ended 31st March 2021

Robust performance and growth opportunities driven by sustainable solutions

Robert MacLeod, Chief Executive, commented:

Our employees have done a tremendous job adapting to new ways of working through COVID-19, whilst still delivering for our customers. It is thanks to their hard work that we have delivered a robust set of results which, in the context of a pandemic, is especially pleasing and testament to their efforts.

Following a challenging first half, we recovered strongly in the second half helped by a strong recovery in our end markets and higher precious metal prices. We are delivering our efficiency programme, tightly managing working capital and generating cash from our more established businesses which we are continuing to invest for growth, particularly in battery materials and hydrogen. In the year we made good strategic progress. We began entering into partnerships to advance the commercialisation of eLNO and secured new customer wins in Fuel Cells. Our investment in sustainable technologies builds on our existing expertise and will enable the transformations in transport, energy, decarbonisation of industry and a circular economy that the world needs to reach net zero – transformations that are at the heart of achieving our vision of a cleaner, healthier world for today and future generations.

It is in this context that we've launched our new sustainability goals which will result in Johnson Matthey being a net zero business by 2040. Our sustainability agenda relates not only to the way we run our own business, but underpins our strategic focus on the current and future technologies we sell to our customers.

As the world aims to build back greener as we come out of the pandemic, our technologies have never been more relevant. We are already seeing this in the continued recovery of our key end markets and our strong start to the current year. Whilst our markets may remain uncertain as the pandemic continues to affect parts of the world differently we nonetheless expect low to mid teens growth in underlying operating performance in the coming year, before the anticipated benefit of currently strong precious metal prices.

		Reported results			Underlying results ¹			
		Year ended		% change	Year ended		% change, constant rates ²	
		31 st March 2021	31 st March 2020		31 st March 2021	31 st March 2020		
Revenue	£ million	15,673	14,577	+8				
Sales excl. precious metals ³	£ million				3,922	4,170	-6	-5
Operating profit	£ million	323	388	-17	504	539	-6	-5
Profit before tax	£ million	238	305	-22				
Earnings per share	pence	106.5	132.3	-20	182.0	199.2	-9	
Ordinary dividend per share	pence	70.0	55.625	+26				

Reported results

- Reported revenue increased 8% driven by higher average precious metal prices
- Reported operating profit declined 17% largely driven by higher administrative expenses, and major impairment and restructuring charges
- Reported profit before tax declined 22% to £238 million as a result of lower reported operating profit which was impacted by higher administrative expenses and major impairment and restructuring charges
- Reported EPS declined 20% reflecting lower reported operating profit
- Cash inflow from operating activities increased by £171 million to £769 million driven by the strong management of working capital

Underlying performance¹

- Sales declined 5% (1H: -20% and 2H: +11% year-on-year) primarily driven by the impact of COVID-19 on our Clean Air sector although this business experienced a strong recovery through the second half
- Underlying operating profit declined 5%, due to higher administrative expenses and the impact of lower sales, which was moderated by higher platinum group metal (pgm) prices primarily in Efficient Natural Resources
- Underlying EPS declined 9% reflecting lower operating profit
- Free cash flow of £305 million was a strong improvement on the prior year, driven by the strong management of working capital across the group, and the reduction of backlogs despite the significant increase in pgm prices
- Balance sheet remains strong, with net debt of £775 million; net debt to EBITDA of 1.2 times

Impact of COVID-19

Throughout the COVID-19 pandemic, we have continued to balance the needs of all our stakeholders, with our priority being the health and safety of our people, customers, suppliers and the communities in which we operate. In the first half our sales declined materially, down 20%, as several of our end markets – particularly automotive – saw a significant decline as a result of the pandemic. The second half saw a strong recovery, with sales up 11% year on year, and activity across a number of our businesses is now back to pre-pandemic levels. As the world builds back greener following the pandemic, we are ideally positioned to help our customers with the complex challenges of addressing climate change through our suite of leading sustainable technologies.

Dividend

The board will propose a final ordinary dividend for the year of 50.0 pence at the Annual General Meeting on 29th July 2021. Together with the interim dividend of 20.0 pence per share, this gives a total ordinary dividend of 70.0 pence representing a 26% increase on the prior year. The board anticipates restoring future dividend payments to levels seen prior to the COVID-19 pandemic when circumstances permit. Subject to approval by shareholders, the final dividend will be paid on 3rd August 2021, with an ex-dividend date of 10th June 2021.

Societal Value Committee

The board has decided to create a Societal Value Committee to bring focus and oversight to our sustainability strategy, goals and performance against targets, which includes our climate management and ESG activities. All directors will be members of the committee, which will be chaired by Jane Griffiths, a Non-Executive Director.

Outlook for the year ending 31st March 2022

The current year has started well with a continuation of the strength seen in the second half of 2020/21. However, end market demand remains uncertain and subject to COVID-19 developments around the world, with the potential for supply chain disruption for some of our automotive customers.

- In 2021/22, assuming our end markets remain robust, we expect low to mid teens growth in underlying operating performance at constant precious metal prices⁴ and constant currency. This largely reflects strength in Clean Air with improving auto production volumes, tightening legislation in Asia and higher order intakes within heavy duty diesel in the US. In addition, we expect an improved performance from Catalyst Technologies and continued progress in Health. We expect to see benefits from our efficiency initiatives across the group, although these will be partly offset by investing for growth in new technology areas such as battery materials and hydrogen.
- At current foreign exchange rates, translational foreign exchange movements for the year ending 31st March 2022 are expected to adversely impact underlying operating profit by c.£25 million.
- If precious metal prices remain at their current high level for the whole of the year (especially for rhodium and palladium), we would expect a further net benefit of up to £120 million⁵. Continued strong metal prices may also result in higher working capital therefore impacting free cash flow in the short term.
- We continue to invest into strategic growth projects and capital expenditure is expected to be up to £600 million for the year. This reflects increased investment as planned into battery materials, which is on track and in line with previous expectations, investment in our pgm refineries to increase the resilience and capacity of these assets and investment in our hydrogen activities.

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Notes:

1. Underlying is before profit or loss on disposal of businesses, gain or loss on significant legal proceedings together with associated legal costs, amortisation of acquired intangibles, major impairment and restructuring charges and, where relevant, related tax effects. For definitions and reconciliations of other non-GAAP measures, see pages 43 to 46.
 2. Unless otherwise stated, sales and operating profit commentary refers to performance at constant rates. Growth at constant rates excludes the translation impact of foreign exchange movements, with 2019/20 results converted at 2020/21 average exchange rates. In 2020/21, the translation impact of exchange rates on group sales and underlying operating profit was negative c.£50 million and c.£6 million respectively.
 3. Revenue excluding sales of precious metals to customers and the precious metal content of products sold to customers.
 4. Based on actual precious metal prices in 2020/21.
 5. Based on current precious metal prices as at 25th May 2021.
- eLNO is a trademark of Johnson Matthey Public Limited Company

Strategy update

Our vision is for a world that's cleaner and healthier, today and for future generations. The world urgently needs more sustainable solutions to address, among other things, climate change. Johnson Matthey is in a strong position with technologies that are fundamental to helping the world achieve the sustainable future that our planet is depending on. In delivering this, we will create significant value for shareholders and other stakeholders.

A global leader in climate change solutions, with a commitment to be net zero by 2040

Throughout our more than 200 year history, we have successfully anticipated change and used our expertise in science and complex metal chemistry to provide technologies to solve the world's biggest challenges.

As the world transitions to more sustainable technologies, we are at another exciting point in our evolution. We are playing an important role in helping our customers address the four essential transitions the world needs for a sustainable future: clean transport, clean energy, decarbonisation of industry and the creation of a circular economy.

Aligned with our vision, we have announced new and ambitious sustainability targets for 2030, with a commitment to reach net zero by 2040. We have signed the Business Ambition for 1.5C campaign to become members of the UNFCCC's "Race to Zero" campaign ahead of COP26, and announced the following Science-based Targets:

- An absolute reduction in Scope 1 and Scope 2 greenhouse gas emissions of at least 33% by 2030^{1,2,4}
- An absolute reduction of Scope 3 greenhouse gas emissions of at least 20% by 2030^{3,4}

Accelerating growth

Our strategy is focused on the four essential transitions the world needs to become more sustainable. Through our sectors, we are delivering technology to enable the biggest transition in the powertrain in a century as well as solutions for decarbonisation of energy and industry, and the creation of a more circular economy.

We are driving sustained growth and cash generation from Clean Air and our other established businesses to support our new, high growth businesses in battery materials and hydrogen as we develop solutions to enable these transitions.

To deliver our strategy, we have defined three key objectives:

- Driving growth and cash from established businesses to support new growth opportunities
- Investing in growth areas targeted at climate change and circularity
- Promoting a fast paced, efficient business and high performance culture

Our ability to deliver these complex solutions is founded on our expertise in science and complex metal chemistry, and builds on core capabilities including catalyst and process technology and pgm recycling.

As part of our strategy and to ensure we maximise value for our shareholders, we will continually review our portfolio to focus on the areas of greatest opportunity and, as previously announced, we are undertaking a strategic review of our Health business. As our group evolves, we will restructure our sectors to better align with our growth ambitions. For further detail on our new divisional structure, please see page 8.

Notes:

1. Scope 1 covers direct greenhouse emissions from owned or controlled sources.
2. Scope 2 covers indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company.
3. Scope 3 includes purchased goods and services.
4. Baseline measure is 2019/20.

Driving growth and cash from established businesses to support new growth opportunities

Clean Air

Our **Clean Air** business supplies world-leading emission control systems that help the automotive and energy industries reduce vehicle emissions. Clean Air will remain vitally important as emissions legislation gets tighter over the next decade. It will also support our growth businesses, both financially and by leveraging its established and trusted relationships with automotive customers for our newer technologies such as fuel cells and battery materials.

In Clean Air, we are driving medium term profit growth as tightening emissions legislation requires more sophisticated catalyst systems leading to higher value per vehicle. We continue to benefit from legislation, particularly through China 6 heavy duty in Asia. As demand for cleaner air from consumers and governments grows, we expect legislation to tighten further across most of our key markets in the second half of the decade.

In recent years, we have been transforming Clean Air to make the business more agile and efficient, enabling it to generate more cash to invest in our new growth opportunities. With our final strategic investments now substantially complete, capital investment beyond 2021/22 will be targeted at c.£50 million per annum.

As the world moves beyond the internal combustion engine, we will manage Clean Air in line with the transition. We will continue to consolidate our operations into our most efficient plants as needed, manage our costs in line with the size of the business, and drive down working capital to ensure the business generates robust cash flow to support investment in our new growth opportunities. Clean Air is expected to generate attractive sustainable cashflow of at least £4 billion in the coming ten years.

Efficient Natural Resources

Efficient Natural Resources is helping to accelerate the transition to a net zero world by providing our customers with technology to decarbonise their industrial processes and recycle scarce critical materials.

- In **Catalyst Technologies**, we are a leading provider of catalyst and process technology to the chemical sector, notably within syngas which is a vital chemical building block for many chemicals including methanol, ammonia and hydrogen which are used to manufacture a wide range of consumer products. Given our strong position in these important value chains, we are helping our customers decarbonise their operations for example through supplying catalysts and adapting processes to produce chemicals in a more efficient and sustainable way. Importantly, our catalyst and process technologies are feedstock agnostic and can be used with renewable feedstocks such as biomass and waste. In March 2021, we announced our involvement in the Haru Oni project in Chile, the world's first integrated and commercial large-scale plant to produce climate neutral e-methanol and e-gasoline from wind power. This project is based on our technology and being led by Siemens Energy in partnership with Porsche. Advancing the production of e-fuels is an important step in the energy transition, as e-fuels offer similar performance to gasoline and diesel but are produced using renewable energy. Given the drive towards sustainability, we are targeting high single digit growth in Catalyst Technologies over the medium term.

Recycling – with its significantly lower carbon footprint than using primary materials – has a critical part to play in decarbonisation and, alongside this, the energy transition is increasing demand for scarce, critical materials. The creation of a circular economy will require new recycling technologies to deliver the transition to net zero and we are strongly positioned for this significant opportunity.

- In **PGM Services** we are the world leader in platinum group metal (pgm) recycling, with core expertise in management and refining. By building on our strong foundation, we will develop our offering towards a “design-to-recycle” approach where we will design products and technologies from the outset that allow for recycling. Over the longer term, we will expand our offering into new critical materials and develop our capabilities for instance in battery materials and fuel cells recycling. We are already making progress on this and recently signed a Memorandum of Understanding with Stena Recycling Group, a leading recycler of industrial waste and end of life products, to develop a value chain in Europe for the recycling of lithium ion batteries and cell manufacturing materials.

Health

In Health, we continue to make progress towards delivering c.£100 million of operating profit from our pipeline of generic and innovator APIs by 2025/26. Across both generics and innovators, we are benefiting from new multi-year supply agreements which will drive our growth. This includes contracts with generic partners for the supply of active pharmaceutical ingredients (APIs) used in opioid addiction therapies as well as innovator customers (Gilead and Sarepta). To support the development of our product pipeline, this year we enhanced our global product introduction process. This process ensures resources are focused on the right opportunities, with a disciplined approach to project stage-gate reviews alongside effective governance including intellectual property and regulatory approval.

Investing in growth areas targeted at climate change solutions and circularity

Our growth businesses in **New Markets**, which includes **battery materials** that will enable electrification of the powertrain and **hydrogen fuel cells**, are enabling a new era of clean transportation.

New Markets growth businesses

In **Battery Materials**, our ambition is to be a leading technology provider for advanced cathode materials used in battery electric vehicles. We are initially targeting the automotive market for high energy cathode materials in Europe which is expected to be c.400kT out of a global market of c.1,800kT by 2030¹.

Today, our portfolio of high nickel cathode materials is being developed and tested in our pilot plant and battery technology centres. We are working closely with global automotive OEMs, cell manufacturers and non-automotive customers to customise our eLNO cathode materials to their specific applications. We continue to see considerable interest with new customers entering testing and our existing customers are progressing well. Two customers already in full cell testing – which typically takes one to two years – are now at more advanced stages. Additionally, Wildcat Discovery Technologies, an independent third party technology company with significant OEM experience in developing and optimising battery materials, has recently performed evaluation and benchmarking on our family of eLNO materials. It confirmed eLNO meets or exceeds current automotive targets for energy, lifetime and power, that are continuing to move forward, giving us further confidence in the attractiveness of our technology to OEMs. These are positive developments in anticipation of signing our first automotive contract in 2023, for commercial production of our materials in 2024.

We are working at pace to take our materials to commercial scale production. Construction of our first commercial plant in Konin, Poland, is progressing well and we continue to expect to start commissioning in 2022 with material for commercial production in 2024. As we embed sustainability into every part of our supply chain, our plant will be powered entirely by renewable electricity.

In April 2021, we announced a partnership with Finnish Minerals Group to locate our second plant in Vaasa, Finland, with a nameplate capacity of 30kT. Our Finnish plant will also be powered entirely by renewable electricity and Finnish Minerals Group is investing to develop an integrated supply of critical raw materials and an innovative effluent management system. Alongside this, we have signed a term sheet for the long-term sustainable supply of nickel and cobalt from Nornickel, and an agreement for the supply of lithium hydroxide from SQM. With these materials forecast to be in deficit over the coming years due to the penetration of battery electric vehicles, we are providing long term security of supply to our customers.

These important developments further strengthen our position in the value chain and form an important part of the supply chain for our plants in both Poland and Finland. In using responsibly sourced nickel and cobalt raw materials, powering our plants solely by renewable energy and employing an innovative effluent treatment solution, we are setting a new standard of sustainability in the production of high performance cathode materials that enable greater adoption of long range, pure battery electric vehicles.

Notes:

1. IHS and Johnson Matthey estimates.

Hydrogen technologies are key to achieving net zero through the decarbonisation of both transport and heavy industry, and we are strongly positioned to enable this transition. Our competitive advantage for fuel cells and green hydrogen (production of hydrogen from electrolysis of water using renewable energy) is founded on our core capabilities in platinum group metals (pgm) catalysis, electrochemistry and surface chemistry. In blue hydrogen (production of hydrogen from natural gas with carbon capture) our success is underpinned by our process technology expertise used to produce methanol.

We have been a leader in hydrogen for many years and already have an established and profitable hydrogen business with sales today of c.£100 million across hydrogen fuel cells (c.£40 million) and hydrogen production technologies (c.£60 million).

- In **hydrogen fuel cells**, the market is developing at pace and we expect heavy duty trucks and automotive applications to be a major opportunity. Our business has grown strongly, with a 35% sales CAGR since 2015. We have a strong position supplying critical components for fuel cell stacks, and our pgm expertise enables us to deliver high performance solutions optimised for specific applications. We also have existing supply contracts with fuel cell players including Doosan, SFC Energy, REFIRE/Unilia, SinoHytech/Sino Fuel Cell plus a number of joint development programmes with major international automotive and truck OEMs, and tier one stack and system manufacturers. Most recently, we have signed a development agreement and a long term supply agreement commencing in 2022 with a major German automotive supplier for the supply of next generation catalyst coated membranes into the global automotive market. In our position as a supplier to these tier one stack and system manufacturers, we gain access to the multiple automotive platforms that these customers supply. We have also joined a major new European consortium to develop higher performance fuel cell components for heavy duty trucks.

To support our growth, we have doubled our manufacturing capacity in the UK and China, giving an overall capacity today of 2GW. We have a strong pipeline of c.10 major truck and auto OEM platforms for which we will supply high value components – membrane electrode assemblies (MEAs) and catalyst coated membranes (CCMs) – which are due to launch between 2022 to 2025. Reflecting this pipeline and strong growth expected in the fuel cells market, we are planning further major capacity expansion. Subject to how the market evolves, over the medium term we are currently on track to deliver sales of around c.£200 million by 2025.

As well as being used in zero emission fuel cells vehicles, hydrogen will play a significant role in the decarbonisation of heavy industry by replacing natural gas as a fuel source. We enable this through our **blue and green hydrogen production technologies** and commercialisation of these is progressing well.

- In **blue hydrogen** (reported in Efficient Natural Resources), we have leading technology and have received our first revenues from providing engineering packages and detailed studies for HyNet and Acorn – two of the world's most progressed low-carbon hydrogen projects. In addition, we are seeing increased international interest in blue hydrogen, giving us a global pipeline of around 15 projects.
- In **green hydrogen** (reported in New Markets), we are well positioned with our proton exchange membrane (PEM) technology which is underpinned by our expertise in pgm catalysis and fuel cells. With our existing manufacturing capacity in the UK – initially enough to enable production of tens of megawatts of electrolyser capacity – we have the ability to work on world scale projects today and we can scale up rapidly to multi-gigawatt manufacturing capacity in line with customer demand. We recently received positive feedback from testing with leading electrolyser manufacturers and have signed a memorandum of understanding (MoU) for the supply of key components with Plug Power. We expect to deliver first commercial sales from this business in 2022.

Change to reporting segments

For the year ending 31st March 2022, we are making small changes to our reporting segments to reflect how we are managing our businesses. This will increase visibility of our new growth businesses, notably our hydrogen technologies. Our new structure is outlined below and further detail will be provided in due course:

- **Clean Air** – no change
- **Efficient Natural Resources** – Catalyst Technologies, PGM Services as well as Life Science Technologies (formerly part of New Markets)
- **Health** – no change
- **Other Markets** (New Markets and Value Businesses)
 - New Markets includes our battery materials, fuel cells and green hydrogen businesses
 - Value Businesses includes Battery Systems, Medical Device Components as well as Diagnostic Services and Advanced Glass Technologies (both formerly part of Efficient Natural Resources) that are non-core

Promote a fast paced, efficient business and high performance culture

Through our programme of active efficiency initiatives, we are transforming our organisation to create a more simple and efficient group, allowing us to act with greater agility and pace in a dynamic external environment. This includes the consolidation of our Clean Air manufacturing footprint and implementation of the new group operating model, which were targeted to save £80 million per annum by 2022/23. We have identified a further £30 million per annum of savings taking the total programme to £110 million per annum by 2023/24.

During the year we delivered £37 million of savings against our target of £110 million of annualised savings by the end of 2023/24. Total costs associated with this programme amount to £311 million of which £140 million was recognised in prior periods, and £171 million during this year of which £80 million is cash (2019/20: nil). For further details on costs, please see page 19.

Previous efficiency initiatives now complete

During the year, we completed our historic cost savings programmes which delivered £145 million of savings in total, of which £29 million was delivered in the year. Total costs associated with these programmes of c.£70 million (of which £40 million was cash) which were taken outside of underlying operating profit in prior years.

Summary of benefits

Initiative £ million	Benefits delivered in 2020/21	Total benefits delivered to date	Future benefits by 2023/24	Total annualised benefits by 2023/24
Clean Air footprint	5	5	55	60
Group wide organisational efficiency	32	32	18	50
Active efficiency programmes	37	37	73	110
Previous efficiency programmes ¹	29	145	-	145
Total efficiency programmes	66	182	73	255

Summary of impairment and restructuring charges

Initiative £ million	Incurred in 2020/21	Total incurred to date
Clean Air footprint	(79)	(140)
Group wide organisational efficiency	(90)	(90)
Other ²	(2)	(81)
Active efficiency programmes	(171)	(311)
Previous efficiency programmes	-	(71)
Total impairment and restructuring charges	(171)	(382)

Notes:

1. £145 million of delivered efficiency programmes include a previous (2017) restructuring programme (£25 million), the optimisation of Health's manufacturing footprint (£20 million) and savings delivered through our group procurement function (£100 million).
2. Other includes Battery Materials LFP, Health product pipeline and other restructuring costs.

Summary of operating results

Unless otherwise stated, commentary refers to performance at constant rates. Percentage changes in the tables are calculated on rounded numbers

Sales (£ million)	2021	Year ended 31st March 2020	% change	% change, constant rates
Clean Air	2,412	2,618	-8	-7
Efficient Natural Resources	1,057	1,079	-2	-1
Health	237	223	+6	+8
New Markets	356	389	-8	-6
Eliminations	(140)	(139)		
Sales	3,922	4,170	-6	-5

Underlying operating profit (£ million)	2021	Year ended 31st March 2020	% change	% change, constant rates
Clean Air	269	295	-9	-8
Efficient Natural Resources	268	256	+5	+6
Health	31	27	+15	+15
New Markets	9	(1)	n/a	n/a
Corporate	(73)	(38)		
Underlying operating profit	504	539	-6	-5

Reconciliation of underlying operating profit to operating profit (£ million)	2021	Year ended 31st March 2020	% change,
Underlying operating profit	504	539	-6
Profit on disposal of businesses	-	2	n/a
Amortisation of acquired intangibles	(10)	(13)	-23
Major impairment and restructuring charges ¹	(171)	(140)	+22
Operating profit	323	388	-17

¹ For further detail on this item please see page 19.

Second half performance

Sales (£ million)	H2 2020/21	H2 2019/20	% change	% change, constant rates
Clean Air	1,409	1,226	+15	+16
Efficient Natural Resources	611	583	+5	+6
Health	118	112	+5	+8
New Markets	188	203	-7	-5
Eliminations	(83)	(78)		
Sales	2,243	2,046	+10	+11

Sales grew 11% in the second half, primarily driven by a strong recovery in demand in Clean Air (+16%). In Efficient Natural Resources sales grew 6% driven by a strong performance in our refinery and trading businesses, benefiting from more volatile and higher average precious metal prices. Health grew 8% driven by new customer contracts and in New Markets, sales declined 5% where the strong sales in Fuel Cells were offset by the disposal of two businesses at the beginning of the second half.

Underlying operating profit (£ million)	H2 2020/21	H2 2019/20	% change	% change, constant rates
Clean Air	192	116	+66	+66
Efficient Natural Resources	187	162	+15	+17
Health	16	9	+78	+78
New Markets	4	7	-43	-40
Corporate	(46)	(20)		
Underlying operating profit	353	274	+29	+30

Underlying operating profit grew 30% in the second half, primarily driven by Clean Air, where we saw a strong recovery in demand. In Efficient Natural Resources, we saw strong growth driven by PGM Services which benefited from more volatile and higher average precious metal prices. Health grew strongly as we benefited from new multi-year customer contracts and the lapping of a weak second half in 2019/20 that was impacted by the temporary disruption in the opioid addiction therapy market. In New Markets, performance in our Medical Device Components and Battery Systems businesses were adversely impacted by COVID-19 and we disposed of two smaller businesses at the start of the second half. Corporate costs were higher largely due to higher bonus accruals, share based payments and legal costs.

Operating results by sector

Clean Air

Strong recovery in demand with second half margin approaching pre-COVID-19 levels

- Sales were down 7% and underlying operating profit declined 8% following disruption as a result of the pandemic in the first half. However, we saw a strong recovery in demand in the second half with sales and underlying operating profit up materially year-on-year, and 2H margins of 13.6% approaching pre-COVID-19 levels
- Light duty sales were down 5%, outperforming global auto production, benefiting from an increased value per vehicle due to tightening legislation in Europe and Asia
- In heavy duty, sales were down 10%. Americas and Europe were down materially, in line with the market, but we saw significant growth in China driven by a strong market and benefits from increased value per vehicle from tighter legislation

	Year ended 31 st March 2021 £ million	2020 £ million	% change	% change, constant rates
Sales				
LDV Europe	922	1,046	-12	-11
LDV Asia	453	381	+19	+21
LDV Americas	265	315	-16	-14
Total Light Duty Vehicle Catalysts	1,640	1,742	-6	-5
HDD Americas	305	443	-31	-29
HDD Europe	250	277	-10	-11
HDD Asia	186	111	+68	+68
Total Heavy Duty Diesel Catalysts	741	831	-11	-10
Other – stationary	31	45	-31	-31
Total sales	2,412	2,618	-8	-7
Underlying operating profit	269	295	-9	-8
Margin	11.2%	11.3%		
Return on invested capital (ROIC)	15.6%	18.4%		
Reported operating profit	165	236		

Strong recovery in demand

In Clean Air, we provide catalysts for emission control after-treatment systems for light and heavy duty vehicles powered by internal combustion engines. Globally Clean Air sales declined 7% in the year. Our first half was materially lower, with sales down 27%, reflecting disruption caused by COVID-19, including customer shutdowns. In the second half, we saw a strong recovery in demand and sales were up 16% in comparison to the second half of the prior year.

Light Duty Vehicle (LDV) catalysts

Sales were down 5% in the year. Following a weak first half where sales declined 23%, we saw a strong second half recovery with sales up 15% year-on-year. Over the year, Europe and the Americas saw double digit declines, which were partly offset by a strong performance in Asia.

European LDV declined 11% with differing performance between diesel and gasoline. Light duty diesel represents c.80% of sales in Europe and sales in this segment decreased 13%, which was ahead of a market that declined materially. This reflected a better platform mix as we saw some platforms moving to more complex systems to comply with tighter Euro 6d final legislation. In light duty gasoline, sales were only down 3%, which was well ahead of the market driven by increased value per vehicle on average.

Americas LDV sales were down 14%, although ahead of the market reflecting a more favourable platform mix, with a greater indexation to diesel. Whilst diesel sales were down, this market proved more resilient than gasoline in the year. Our gasoline sales declined, in line with the market.

Sales in Asia LDV grew strongly as we benefited from an uplift in value per vehicle due to tightening legislation, particularly in China and India, and increased vehicle production. This was partly offset by some loss of gasoline share in China as previously reported.

Heavy Duty Diesel (HDD) catalysts

The heavy duty market (trucks, buses and non-road equipment) is expected to show greater longevity than light duty, with less of an impact in the short and medium term from electrification.

Global HDD sales were down 10%. Whilst first half sales were down 33%, we experienced a strong recovery in the second half with sales up 20% year on year as markets recovered. We saw significant growth in our HDD Asia business, although this was more than offset by the Americas and European regions which saw truck production materially impacted by COVID-19.

Our Americas HDD business declined 29%, in line with the market. Following the downturn in the Class 8 truck cycle, external data suggest the cycle has turned. We saw increased orders coming through at the end of our financial year and we expect to see further benefits in 2021/22.

Europe HDD declined 11%, ahead of the market. In Asia sales grew 68%, significantly ahead of a market that grew strongly. We also benefited from Chinese government incentives and tighter legislation in China and India.

Underlying operating profit

Underlying operating profit declined 8% as the disruption from the pandemic in the first half was partly offset by strong cost control and early benefits from our transformation programme. Margin remained broadly flat over the year at 11.2%, with the second half margin of 13.6% approaching pre-COVID levels.

ROIC

ROIC declined 2.8% to 15.6% due to lower operating profit and higher working capital as business activity ramped back up.

Efficient Natural Resources

Strong performance despite challenges from COVID-19

- Strong performance with sales broadly flat despite challenges from COVID-19. Catalyst Technologies was weaker due to COVID-19 and the comparison to a strong performance in the prior year from methanol catalyst refills. PGM Services grew strongly benefiting from more volatile and higher average precious metal prices.
- Underlying operating profit grew 6% and margin expanded 1.6 percentage points. This reflected higher average pgm prices and strength in our PGM Services trading business in a more volatile price environment as well as efficiency benefits. This was partly offset by weaker performance across the rest of the sector.

	Year ended 31 st March 2021 £ million	2020 £ million	% change	% change, constant rates
Sales				
Catalyst Technologies	469	556	-16	-15
PGM Services	479	389	+23	+25
Advanced Glass Technologies	66	70	-6	-6
Diagnostic Services	43	64	-33	-31
Total sales	1,057	1,079	-2	-1
Underlying operating profit	268	256	+5	+6
Margin	25.4%	23.8%		
Return on invested capital (ROIC)	25.2%	17.2%		
Reported operating profit	241	250		

Catalyst Technologies

Our Catalyst Technologies business licenses key, proven and efficient process technology solutions and manufactures high value speciality catalysts and additives principally for the chemical and energy industries. We continued to operate our own plants throughout the COVID-19 pandemic by implementing new ways of working to keep our employees safe.

Sales were down primarily driven by lower demand for refill catalysts and additives, with sales of copper zeolites to Clean Air and licensing income also lower. These sales were partly offset by good growth in first fill catalysts from customer plants already under construction prior to COVID-19.

Refill catalysts and additives impacted by COVID-19 and comparison to a strong prior year

This is recurring business which makes up the majority of sales within Catalyst Technologies. Sales were lower driven by weaker demand due to COVID-19 in some end markets including additives which reflects fuel demand, and formaldehyde which is largely used in construction. As expected, following a strong performance in the prior year, sales of methanol catalyst refills were lower due to the phasing of customer changeouts.

First fill catalysts grew well

Sales of first fill catalysts are driven by the start-up of new plants. They are a lead indicator of future refill catalyst demand. In the period, we saw good sales growth with increased demand for ammonia and hydrogen catalysts as new plants came onstream.

Licensing weaker in the period but strong future prospects

Our licensing business is dependent on new plant builds and revenue is recognised over the period of construction. In the period, sales were down largely due to project delays caused by COVID-19. We are starting to recognise income from our new technology including Fischer Tropsch sustainable aviation fuel and we received our first revenues from providing engineering packages and detailed studies for HyNet and Acorn, two of the world's leading low carbon blue hydrogen projects.

Licensing activity has improved and we signed 10 new licences in the year (2019/20: 4 licences) including technology for the world's largest methanol plant. We have a strong pipeline of projects which includes the world's first climate neutral e-methanol plant (see page 5).

PGM Services

PGM Services is the world's leading secondary refiner of platinum group metals (pgms) with expertise in management and refining of these scarce critical materials. This business has an important role in enabling the energy transition through providing circular solutions as demand for scarce critical materials increases and provides a strategic service to the group, supporting Clean Air with security of metal supply in a volatile market. Going forward it will provide that same security of supply to fuel cells and green hydrogen. In light of COVID-19, we adapted our working practices and our refineries maintained operation throughout the year, ensuring continued supply to our customers.

PGM Services sales grew strongly, benefiting from higher average pgm prices

Sales increased 25% reflecting strong growth in our refining and trading businesses as we benefited from more volatile and higher average precious metal prices driven by tight market conditions for these critical materials. Sales grew in chemical products supported by the supply of catalysts for fuel cells. Industrial products containing pgms were slightly down.

Refinery backlog volumes at historically low levels

We continue to make excellent progress in reducing our refinery backlogs. Our backlogs are now at historically low levels, reflecting a strong operational focus and improvement in the management of precious working capital. These improvements support the group's balance sheet efficiency and strengthen our position as a trusted supplier of scarce critical materials.

Advanced Glass Technologies

Advanced Glass Technologies mainly provides black obscuration enamels and silver paste for automotive glass applications. Sales were lower across both non-automotive and automotive segments primarily driven by lower demand due to COVID-19 in the first half, although we saw a strong rebound in the second half as markets recovered.

Diagnostic Services

Diagnostic Services provides specialised detection, diagnostic and measurement solutions for our customers in the petroleum industry. Sales were down impacted by COVID-19 which limited travel to customer sites, the lower oil price and lower oil consumption.

Underlying operating profit

Operating profit grew 6% and margin expanded 1.6 percentage points. This was primarily driven by a c.£80 million benefit from higher average pgm prices and strength in our PGM Services trading business in a more volatile price environment as well as efficiency benefits. This was partly offset by weaker performance in Catalyst Technologies, Diagnostic Services and Advanced Glass Technologies affected by COVID-19.

ROIC

ROIC increased 8% to 25.2% driven by lower precious metal working capital and higher underlying operating profit.

Health

Sales and operating profit growth supported by new customer contracts

- Sales growth in Generics and Innovators driven by new multi-year customer contracts
- Underlying operating profit grew 15% reflecting stronger business performance and efficiency benefits, partly offset by higher costs
- We made further progress towards delivering c.£100 million of operating profit from our pipeline of generic and innovator APIs, and launched one innovator and one generic in the period
- Strategic review of sector in progress as previously announced

	Year ended 31 st March 2021 £ million	2020 £ million	% change	% change, constant rates
Sales				
Generics	146	134	+9	+11
Innovators	91	89	+2	+3
Total sales	237	223	+6	+8
Underlying operating profit	31	27	+15	+15
Margin	13.1%	12.1%		
Return on invested capital (ROIC)	6.4%	5.3%		
Reported operating profit	14	10		

Generics

Our Generics business develops and manufactures generic active pharmaceutical ingredients (APIs) for a variety of treatments. Sales grew 11%, primarily driven by speciality opiates where we benefited from new supply agreements.

Growth driven by new multi-year supply agreements for opioid addiction therapies

In the year, sales of controlled APIs were up. Sales of speciality opiates grew strongly primarily driven by opioid addiction therapies where we benefited from new multi-year supply agreements with generic partners. Sales of APIs for ADHD treatments were lower as one of our customers moved to dual sourcing for some high margin APIs although we remain well positioned in this growing market with our portfolio of APIs for ADHD treatments. We are advancing development of our ADHD portfolio which includes lisdexamfetamine – a generic which is currently awaiting regulatory approval. Sales of bulk opiates in Europe were down.

Sales of non-controlled APIs were broadly flat reflecting mixed performance across a number of products.

Innovators

Our Innovators business provides custom development and manufacturing services for active ingredients of new drugs during their lifecycle, including for initial clinical evaluation and subsequently for commercial supply post regulatory approval.

Sales growth and continued progress with innovator customers

Our innovators business grew 3% in the year. This largely reflected increased demand from Gilead (formerly Immunomedics) as we execute on a multi-year contract for the supply of an immuno-oncology drug linker used in a treatment for triple negative breast cancer. We expect continued growth in the coming year and remain excited about our future prospects particularly in light of Gilead's recent approval from the FDA (Food and Drug Administration) for a further indication of the drug for the treatment of bladder cancer. Sales were also supported by higher demand from Sarepta as we continue to supply materials and treatments for their Duchenne Muscular Dystrophy treatment. As previously reported, sales were impacted following the cancellation of a customer's project in the second half of the prior year as they did not receive regulatory approval.

API product pipeline

We continued to develop our new product pipeline across both our Generics and Innovators businesses and made further progress towards delivering c.£100 million of operating profit from this. To date we have launched six products which delivered sales of c.£60 million in the year.

To support the development of our product pipeline, we have enhanced our new global product introduction process. This ensures resources are focused on the right opportunities, with a disciplined approach to project stage-gate reviews alongside effective governance including intellectual property and regulatory approval.

Overall, our pipeline comprises 59 molecules across generic APIs, innovator APIs and new applications. This includes the six launched molecules, including one innovator (Gilead) and one generic oncology treatment which both launched in the period. We have 11 generic molecules awaiting regulatory approval and one innovator project in late stage testing.

Underlying operating profit

Operating profit grew strongly, up 15%, and margin expanded 1.0 percentage points reflecting stronger business performance and efficiency benefits, partly offset by higher costs.

ROIC

ROIC increased 1.1% to 6.4%, reflecting higher operating profit and lower working capital.

New Markets

Progress in the commercialisation and scale up of eLNO and continued strong growth in Fuel Cells

- Sales decreased 6%. Strong growth in Fuel Cells was offset by Battery Systems and Medical Device Components which were weaker due to the impact of COVID-19, as well as the disposal of other businesses in the second half
- Operating profit grew to £9 million, largely due to the absence of a one off £8 million impairment in the prior year relating to the eLNO demo plant
- Commercialisation of eLNO remains on track and we announced plans to scale up beyond our first commercial plant
- Strong sales growth in Fuel Cells with 2GW of capacity on stream, and planning further expansion

	Year ended 31 st March 2021 £ million	2020 £ million	% change	% change, constant rates
Sales				
Alternative Powertrain	225	237	-5	-3
Medical Device Components	61	72	-15	-13
Life Science Technologies	53	50	+6	+8
Other	17	30	-43	-41
Total sales	356	389	-8	-6
Underlying operating profit / (loss)	9	(1)	n/a	n/a
Margin	2.5%	-0.2%		
Return on invested capital (ROIC)	3.4%	-0.3%		
Reported operating loss	-	(62)		

Alternative Powertrain

Alternative Powertrain provides battery systems for a range of applications, fuel cell technologies and battery materials for automotive applications. Our Battery Materials business comprises lithium iron phosphate (LFP) materials as well as eLNO, our portfolio of leading nickel rich advanced cathode materials.

Sales declined 3%. We saw continued strong growth in Fuel Cells. This was offset by lower sales in Battery Systems due to a weaker sales mix and impact from COVID-19.

Fuel Cells continues to grow strongly

Sales in Fuel Cells increased 24% to £41 million as we continue to see increased demand for fuel cells in automotive applications in Asia. The recent expansion programme to double our manufacturing footprint is now complete, with 2GW of capacity across the UK and China. We will add new capacity quickly to meet market demand.

Medical Device Components

Our Medical Device Components business leverages our science and technology to develop products found in devices used in medical procedures. Sales were down 13%, weighted to the first half where we saw postponement of some elective procedures as a result of the COVID-19 pandemic.

Life Science Technologies

Our Life Science Technologies business provides advanced catalysts to the pharmaceutical and agricultural chemicals markets. Sales were up 8% as we saw increased demand for some products.

Other

Other comprises Atmospheric Control Technologies and Water Technologies, which were disposed of in November 2020.

Underlying operating profit

Underlying operating profit increased to £9 million, reflecting the absence of a one off £8 million impairment in the prior year relating to the eLNO demo plant.

ROIC

ROIC increased 3.7% to 3.4% reflecting the increased underlying operating profit in the year.

Corporate

Corporate costs in the year were £73 million, an increase of £35 million from the prior year, largely due to higher bonus accruals, share based payments and legal costs.

Financial review

Research and development (R&D)

We invested £194 million in R&D in the year which included £22 million of capitalised R&D. This was around 5% of sales and broadly flat on the prior year. We continue to invest in next generation technologies in Clean Air, the efficiency and resiliency of our refineries in Efficient Natural Resources, our Health API product pipeline, our eLNO cathode materials and hydrogen technologies.

Foreign exchange

The calculation of growth at constant rates excludes the impact of foreign exchange movements arising from the translation of overseas subsidiaries' profit into sterling. The group does not hedge the impact of translation effects on the income statement.

The principal overseas currencies, which represented 76% of the non-sterling denominated underlying operating profit in the year ended 31st March 2021, were:

	Share of 2020/21 non-sterling denominated underlying operating profit	Average exchange rate Year ended 31 st March		% change
		2021	2020	
US dollar	23%	1.31	1.27	+3
Euro	30%	1.21	1.14	+6
Chinese renminbi	23%	8.85	8.85	-

If current exchange rates (£:\$ 1.39, £:€ 1.15, £:RMB 9.01) are maintained throughout the year ending 31st March 2022, foreign currency translation will have a negative impact of approximately £25 million on underlying operating profit. A one cent change in the average US dollar and euro exchange rates each have an impact of approximately £1 million and £2 million respectively on full year underlying operating profit and a ten fen change in the average rate of the Chinese renminbi has an impact of approximately £1 million.

Major impairment and restructuring charges

During the year we recognised impairment and restructuring charges of £171 million (31st March 2020: £140 million) associated with efficiency initiatives to transform our organisation into a more simple and efficient group. Of this charge, £80 million was cash. The remaining £91 million was a non cash impairment relating to the consolidation of our Clean Air manufacturing footprint (£49 million) and group wide organisation efficiencies (£42 million).

£ million	Impairment and restructuring charge
Clean Air footprint	79
Group wide organisational efficiency	90
Other ¹	2
Total	171

1. Site closure of Battery Materials LFP.

Finance charges

Net finance charges in the year amounted to £85 million, broadly in line with 2019/20. Finance costs on metal borrowings have decreased due to the focus across the group on reducing precious metal working capital. This was offset by higher average interest rates across the mix of our borrowings.

Taxation

The effective tax rate on reported profit for the year ended 31st March 2021 was 13.9%, down from 16.4% in the prior year.

The tax charge on underlying profit before tax for the year ended 31st March 2021 was £68 million, an effective underlying tax rate of 16.3%, slightly higher than 15.7% in the prior year primarily due to profit mix across different tax jurisdictions.

Post-employment benefits

IFRS – accounting basis

At 31st March 2021, the group's net post-employment benefit position, after taking account of the bonds held to fund the UK pension scheme deficit, was a surplus of around £100 million.

The cost of providing post-employment benefits in the year was £65 million, up from £49 million last year. The prior year charge included a £20 million credit, compared to a £3 million credit this year.

Actuarial – funding basis

The UK pension scheme has a legacy defined benefit career average section which was closed to new entrants on 1st October 2012 when a new defined benefit cash balance section was opened.

The last triennial actuarial valuation of the career average section as at 1st April 2018 revealed a deficit of £34 million, or a surplus of £9 million after taking account of the future additional deficit funding contributions from the special purpose vehicle set up in January 2013. The valuation results as at 1st April 2018 allowed for the equalisation of Guaranteed Minimum Pension.

The last triennial actuarial valuation of the cash balance section as at 1st April 2018 revealed a surplus of £0.2 million.

The next triennial actuarial valuation of the UK pension scheme is due as at 1st April 2021 with the results available towards the end of 2021.

The latest actuarial valuations of our two US pension schemes showed a surplus of £6.8 million at 1st July 2020, an improvement from a £1 million surplus at 1st July 2019.

Capital expenditure

Capital expenditure was £358 million in the year, 2.0 times depreciation and amortisation (excluding amortisation of acquired intangibles). Key projects included:

- Investment in the development and commercialisation of eLNO, our portfolio of leading nickel rich advanced cathode materials, including our first commercial plant in Konin, Poland
- Investment in our pgm refineries to increase the resilience and capacity of these assets
- Completion of Clean Air manufacturing plants in Europe and Asia
- Upgrading our core IT business systems
- Investment into Fuel Cells and Green Hydrogen
- Continued investment in our Health API product pipeline

Capital expenditure for 2021/22 is expected to be up to £600 million as our investment into strategic growth projects continues. Key projects include:

- Continued commercialisation of eLNO battery materials
- Investment in our pgm refineries to increase the resilience and capacity of these assets
- Upgrading our core IT business systems
- Investment into our hydrogen offerings

Depreciation and amortisation (excluding amortisation of acquired intangibles) was £180 million in the year. This is expected to increase to c.£225 million in 2021/22 due to the depreciation of our new Clean Air plants, the upgrade of our pgm refineries and amortisation of the upgrade to core IT systems.

Strong balance sheet

As part of our improved strong management of working capital and focus on balance sheet efficiency, net debt at 31st March 2021 was £775 million. This is a decrease of £103 million from 30th September 2020 and decrease of £319 million from 31st March 2020. Net debt is £40 million higher at £815 million when post tax pension deficits are included. The group's net debt (including post tax pension deficits) to EBITDA was 1.2 times (31st March 2020: 1.6 times), slightly below our target range of 1.5 to 2.0 times.

We use short term metal leases, which are outside the scope of IFRS 16 and off-balance sheet, as part of our mix of funding for working capital. Despite the significant increase in pgm prices, metal leases did not increase in value in the year. These amounted to £437 million at 31st March 2021 (31st March 2020: £451 million).

Free cash flow and working capital

Free cash flow was an inflow of £305 million, a strong improvement on the prior year. This reflects strong management of both non-precious metal and precious metal working capital across the whole group, which offset the significant rise in pgm prices experienced.

Average working capital days excluding precious metals decreased by 6 days to 57 days. Our target range for average non-precious metal working capital days is between 50 and 60 days over the medium term.

Responsible business

Sustainable business

Sustainability has always been at the heart of what we do and our products and services already make a huge contribution to society. We are committed to ensuring that the products we make – and the way that we make them – is as sustainable as possible, whether that's keeping our people safe and motivated at work, adopting ethical business practices or reducing greenhouse gas emissions from our facilities.

People

We continued to place huge emphasis on health and safety, promoting the right behaviours through our values and through health and safety programmes across the group. We made further good progress against our targets to reduce significant risk in our major hazard processes and on improving occupational health and safety performance. Our employee total recordable injury and illness rate (TRIIR) improved from 0.79 to 0.56 which is ahead of the target of 0.6 that we set ourselves to exceed by 2025. We also improved our process safety severity rate from 1.20 to 0.81. This improvement reflects our continued efforts to build a world class health and safety culture, despite the challenges of COVID-19 this last year. When COVID-19 hit, we quickly put safety measures in place at our facilities around the world to protect our operational teams and reduce the spread of infection. We established a global outbreak response team and developed site guidance at a corporate level, ensuring our measures met national and regional health guidelines and relevant COVID-19 laws.

The steps we have taken have kept our facilities operating and our people safe. We continue to assess the situation and introduce additional safety measures when needed. As some countries are now starting to ease their lockdown restrictions, we are helping home based employees get back on site, in line with our own alert level status guidance and in compliance with national and local requirements. We are also shaping a new 'future of work' approach that will encourage more flexible, ways of working. The pandemic was also a stark reminder of the importance of protecting people's mental health as well as their physical safety. We have continued to support their overall wellbeing with more regular communications, programmes and resources.

We are proud of our team and we will need their capabilities even more than ever as we play our full role in the essential transitions happening today. We continue to find ways to enable our people to develop their skills, give them new experiences, protect their wellbeing and remain engaged with our vision for a cleaner, healthier world. As well as talented people we also need an organisation that is fit and ready to support our ambitious growth plans and adapt to changing markets.

Ongoing transformation is a necessary part of our ability to execute our strategy. In June 2020 we shared an intent to reduce the number of roles in our organisation by 2,500. This year our restructuring led to the removal of 1,128 roles. By focusing on redeployment and not filling vacancies we were able to reduce redundancies by over 10%. Further changes are expected over the next three years, however they will have less of an impact than expected on organisation structures largely due to strong performance in our core businesses and predicted future growth. We now estimate a further reduction of c.900 roles over the next three years to complete this phase of the transformation journey. Meanwhile, we implemented transition principles to retain our best talents and voluntary turnover fell 9% in 2019/20 to 8.2%. We have provided leaders with change management support, learning and development programmes and communications training to help them lead their teams through this transformation.

Operations

Our products and services help others achieve their climate and sustainability goals and we strive for high performance in our own operations. Our Scope 1 and 2 greenhouse gas emissions reduced slightly in 2020/21 and we have further increased the proportion of electricity we sourced from renewable sources.

This year we have continued to embed the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) into our management and reporting frameworks and plan to demonstrate full compliance in our 2022 annual report.

In April 2021 we set a bold new commitment to reach net zero by 2040 and signed up to the UN Global Compact's Business Ambition for 1.5°C. This commitment reflects our recognition of the Intergovernmental Panel on Climate Change's (IPCC) science on climate change. It also supports our earlier climate actions, including signing the Paris Climate Pledge to keep the global temperature rise below 2°C and our commitment to the UN SDGs, including UN SDG13 (climate action). To support our net zero goal we are also introducing science based targets to 2030 to reduce our Scope 1 and 2 emissions by 33% and our Upstream Scope 3 emissions from purchased goods and services by 20%.

Ramping up our sustainability agenda

The six sustainable business goals that we set in 2017 were aligned with the material issues that faced our stakeholders at the time. However, we need to push ourselves further given the pace of change in the sustainability agenda and the ever increasing expectations on companies to act, and report on their progress. That's why we are setting a new framework and strategy for sustainability underpinned by a series of ambitious goals and targets for our products, our operations and for people.

We will provide further details of this framework, goals and their associated targets in our 2021 Annual Report and Accounts which will be published on 15th June 2021.

Consolidated Income Statement

for the year ended 31st March 2021

	Notes	2021 £ million	2020 £ million
Revenue	2,3	15,673	14,577
Cost of sales		(14,654)	(13,576)
Gross profit		1,019	1,001
Distribution costs		(110)	(126)
Administrative expenses		(404)	(336)
(Loss) / profit on disposal of businesses	10	(1)	2
Amortisation of acquired intangibles	4	(10)	(13)
Major impairment and restructuring charges	5	(171)	(140)
Operating profit		323	388
Finance costs		(158)	(195)
Finance income		73	109
Share of profits of joint ventures and associates		-	3
Profit before tax		238	305
Tax expense		(33)	(50)
Profit for the year		205	255
		pence	pence
Earnings per ordinary share			
Basic	6	106.5	132.3
Diluted	6	106.4	132.1

Consolidated Statement of Total Comprehensive Income

for the year ended 31st March 2021

	Notes	2021 £ million	2020 £ million
Profit for the year		205	255
Other comprehensive income			
Items that will not be reclassified to the income statement			
Remeasurements of post-employment benefit assets and liabilities	11	(141)	87
Fair value gains / (losses) on equity investments at fair value through other comprehensive income		5	(2)
Tax on items that will not be reclassified to the income statement		28	(21)
Total items that will not be reclassified to the income statement		(108)	64
Items that may be reclassified to the income statement			
Exchange differences on translation of foreign operations		(162)	65
Amounts credited to hedging reserve		3	-
Fair value gains / (losses) on net investment hedges		12	(8)
Total items that may be reclassified to the income statement		(147)	57
Other comprehensive (expense) / income for the year		(255)	121
Total comprehensive (expense) / income for the year		(50)	376

Consolidated Balance Sheet

as at 31st March 2021

	Notes	2021 £ million	2020 £ million
Assets			
Non-current assets			
Property, plant and equipment	8	1,424	1,403
Right-of-use assets		74	88
Goodwill		554	580
Other intangible assets	9	359	396
Investments in joint ventures and associates		2	23
Investments at fair value through other comprehensive income		53	49
Other receivables		50	63
Interest rate swaps		20	34
Deferred tax assets		140	66
Post-employment benefit net assets	11	194	317
Total non-current assets		2,870	3,019
Current assets			
Inventories		1,814	1,902
Current tax assets		13	31
Trade and other receivables		2,422	2,077
Cash and cash equivalents		581	304
Other financial assets		44	28
Total current assets		4,874	4,342
Total assets		7,744	7,361
Liabilities			
Current liabilities			
Trade and other payables		(3,325)	(2,745)
Lease liabilities		(11)	(12)
Current tax liabilities		(147)	(106)
Cash and cash equivalents – bank overdrafts		(36)	(31)
Borrowings and related swaps		(26)	(331)
Other financial liabilities		(18)	(50)
Provisions		(35)	(11)
Total current liabilities		(3,598)	(3,286)
Non-current liabilities			
Borrowings and related swaps		(1,252)	(994)
Lease liabilities		(51)	(64)
Deferred tax liabilities		(28)	(74)
Employee benefit obligations	11	(98)	(104)
Provisions		(27)	(9)
Other payables		(5)	(6)
Total non-current liabilities		(1,461)	(1,251)
Total liabilities		(5,059)	(4,537)
Net assets		2,685	2,824
Equity			
Share capital		221	221
Share premium		148	148
Shares held in employee share ownership trust (ESOT)		(29)	(32)
Other reserves		-	142
Retained earnings		2,345	2,345
Total equity		2,685	2,824

The accounts were approved by the Board of Directors on 27th May 2021 and signed on its behalf by:

R J MacLeod
S R Oxley Directors

Consolidated Cash Flow Statement

for the year ended 31st March 2021

	Notes	2021 £ million	2020 £ million
Cash flows from operating activities			
Profit before tax		238	305
Adjustments for:			
Share of profits of joint ventures and associates		-	(3)
Loss / (profit) on disposal of businesses		1	(2)
Depreciation		158	154
Amortisation		32	24
Impairment losses		122	146
Loss on sale of non-current assets		4	5
Share-based payments		9	(1)
Decrease / (increase) in inventories		19	(575)
Increase in receivables		(430)	(541)
Increase in payables		607	1,115
Increase / (decrease) in provisions		41	(6)
Contributions in excess of employee benefit obligations charge		(7)	(24)
Changes in fair value of financial instruments		(45)	24
Net finance costs		85	(86)
Income tax paid		(65)	(109)
Net cash inflow from operating activities		769	598
Cash flows from investing activities			
Interest received		66	104
Purchases of property, plant and equipment		(304)	(332)
Purchases of intangible assets		(77)	(111)
Proceeds from sale of assets held for sale		-	7
Proceeds from sale of non-current assets		5	1
Net proceeds from sale of businesses	10	19	-
Net cash outflow from investing activities		(291)	(331)
Cash flows from financing activities			
Proceeds from borrowings		368	135
Repayment of borrowings		(298)	(123)
Dividends paid to equity shareholders	7	(99)	(167)
Interest paid		(159)	(202)
Principal element of lease payments		(14)	(13)
Net cash outflow from financing activities		(202)	(370)
Increase / (decrease) in cash and cash equivalents		276	(103)
Exchange differences on cash and cash equivalents		(4)	(2)
Cash and cash equivalents at beginning of year		273	378
Cash and cash equivalents at end of year		545	273
Cash and deposits		119	112
Money market funds		462	192
Bank overdrafts		(36)	(31)
Cash and cash equivalents		545	273

Consolidated Statement of Changes in Equity

for the year ended 31st March 2021

	Share capital £ million	Share premium account £ million	Shares held in ESOT £ million	Other reserves £ million	Retained earnings £ million	Total equity £ million
At 1st April 2019	221	148	(45)	87	2,205	2,616
Total comprehensive income	-	-	-	55	321	376
Dividends paid (note 7)	-	-	-	-	(167)	(167)
Share-based payments	-	-	-	-	5	5
Cost of shares transferred to employees	-	-	13	-	(19)	(6)
At 31st March 2020	221	148	(32)	142	2,345	2,824
Total comprehensive (expense) / income	-	-	-	(142)	92	(50)
Dividends paid (note 7)	-	-	-	-	(99)	(99)
Share-based payments	-	-	-	-	16	16
Cost of shares transferred to employees	-	-	3	-	(10)	(7)
Tax on share-based payments	-	-	-	-	1	1
At 31st March 2021	221	148	(29)	-	2,345	2,685

1 Preparation

Basis of preparation and statement of compliance

The financial statements of the group have been prepared on a going concern basis in accordance with International Accounting Standards (IAS) in conformity with the requirements of the Companies Act 2006. The financial statements are also prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB), adopted pursuant to Regulation (EC) No 1606/2002 as it applies to the European Union, including the interpretations issued by the IFRS Interpretations Committee. Except for the changes noted below, the accounting policies applied are set out in the Annual Report and Accounts for the year ended 31st March 2020.

The group has navigated positively through the COVID-19 pandemic, with financial performance above the directors projections both in terms of operating profit and cash flow when compared to base case projections set in the prior year going concern assessment. As at 31st March 2021, the group maintains a strong balance sheet, with approximately £1.5 billion of available cash and undrawn committed facilities. Our net debt has improved by £0.3 billion since 31st March 2020 and we have made £nil drawings under committed facilities.

The directors have reviewed the base case scenario forecasts for the group and have a reasonable expectation that there are no material uncertainties that cast doubt about the group's ability to continue operating for at least twelve months from the date of signing these financial statements. In forming this view, the base case scenario was stress tested to represent a severe but plausible downside case scenario which modelled a material deterioration in trading volumes. The directors consider this to be an extreme scenario given it is significantly adverse to market projections.

In both scenarios outlined above, the group has sufficient headroom against committed facilities and key financial covenants are not in breach during the going concern period. Accordingly, the directors continue to adopt the going concern basis in preparing the financial statements.

Statutory accounts for 2020 have been delivered to the Registrar of Companies and those for 2021 will be delivered following the company's Annual General Meeting. The auditor, PwC, has reported on both sets of accounts. Their reports were unqualified, did not include a reference to any matters to which the auditors drew attention by way of emphasis without qualifying their report and did not contain any statement under sections 498(2) or 498(3) of the Companies Act 2006. The accounts for the year ended 31st March 2021 were approved by the Board of Directors on 26th May 2021.

Changes in accounting policies

Interest Rate Benchmark Reform Phase 2 - Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16

The IBOR reform, Phase 2 amendments were effective for annual periods beginning on or after the 1st January 2021. The Phase 2 amendments address issues that arise from implementation of the reforms, including the replacement of one benchmark with an alternative one. A practical expedient is provided such that the change to contractual cash flows for financial assets and liabilities (including lease liabilities) is accounted for prospectively by revising the effective interest rate. In addition, hedge accounting will not be discontinued solely because of the IBOR reform. The amendments are not expected to have a material impact on the results or financial position of the group.

The group has one IFRS 9 designated hedge relationship that is potentially impacted by IBOR reform: the 3.26% \$150 million Bonds 2022 which have been swapped into floating rate US dollars. This swap references six-month US dollar LIBOR and uncertainty arising from the group's exposure to IBOR reform will cease when the swap matures in 2022, before the amendments are effective for the group. The implications on the wider business of IBOR reform will be assessed during the year.

Other amendments to accounting standards

The following amendments to existing standards were applicable to the group and parent company from 1st April 2020, but did not have a significant effect on their reported results or net assets:

- Amendments to References to Conceptual Framework in IFRS Standards
- Amendments to *IAS 1* and *IAS 8: Definition of Material*
- Amendments to *IFRS 3: Definition of a Business*.

The group has elected not to apply the exemption granted in the 'COVID-19 related rent concessions' amendment to IFRS 16, *Leases*, as the group has not received material COVID-19 related rent concessions as a lessee.

Notes on the Preliminary Accounts

for the year ended 31st March 2021

1 Preparation (continued)

Changes in accounting policies (continued)

Non-GAAP measures

The group uses various measures to manage its business which are not defined by generally accepted accounting principles (GAAP). The group's management believes these measures provide valuable additional information to users of the accounts in understanding the group's performance. The group's non-GAAP measures are defined and reconciled to GAAP measures in note 16.

Notes on the Preliminary Accounts

for the year ended 31st March 2021

2 Segmental information

Revenue, sales, underlying operating profit and net assets by sector

Year ended 31st March 2021

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Eliminations £ million	Total £ million
Revenue from external customers	6,985	7,916	238	534	-	-	15,673
Inter-segment revenue	2	4,851	-	53	-	(4,906)	-
Revenue	6,987	12,767	238	587	-	(4,906)	15,673
External sales	2,412	921	236	353	-	-	3,922
Inter-segment sales	-	136	1	3	-	(140)	-
Sales¹	2,412	1,057	237	356	-	(140)	3,922
Underlying operating profit¹	269	268	31	9	(73)	-	504
Segmental net assets	1,480	705	469	310	353	-	3,317
Net debt (note 16)							(775)
Post-employment benefits net assets and liabilities (note 11)							96
Deferred tax net asset							112
Provisions and non-current other payables							(67)
Investments in joint ventures and associates							2
Net assets							2,685

Year ended 31st March 2020

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Eliminations £ million	Total £ million
Revenue from external customers	6,172	7,670	229	506	-	-	14,577
Inter-segment revenue	1	4,291	-	6	-	(4,298)	-
Revenue	6,173	11,961	229	512	-	(4,298)	14,577
External sales	2,617	945	223	385	-	-	4,170
Inter-segment sales	1	134	-	4	-	(139)	-
Sales ¹	2,618	1,079	223	389	-	(139)	4,170
Underlying operating profit ¹	295	256	27	(1)	(38)	-	539
Segmental net assets	1,361	1,267	520	236	332	-	3,716
Net debt (note 16)							(1,094)
Post-employment benefit net assets and liabilities (note 11)							213
Deferred tax net liabilities							(8)
Provisions and non-current other payables							(26)
Investments in joint ventures and associates							23
Net assets							2,824

¹Sales and underlying operating profit are non-GAAP measures (see note 16). Sales excludes the sale of precious metals. Underlying operating profit excludes profit or loss on disposal of businesses, gain or loss on significant legal proceedings, together with associated legal costs, amortisation of acquired intangibles and major impairment and restructuring charges.

Notes on the Preliminary Accounts

for the year ended 31st March 2021

2 Segmental information (continued)

Impact of exchange rate movements on sales and underlying operating profit by sector

The main impact of exchange rate movements on sales and underlying operating profit is from the translation of the results of foreign operations into sterling.

Average exchange rates within the financial year

	2021	2020
US dollar / £	1.31	1.27
Euro / £	1.12	1.14
Chinese renminbi / £	8.85	8.85

	Year ended 31st March 2021 £ million	Year ended 31st March 2020 At last year's rates £ million	Year ended 31st March 2020 At this year's rates £ million	Change at this year's rates %
Clean Air	2,412	2,618	2,590	-7
Efficient Natural Resources	1,057	1,079	1,069	-1
Health	237	223	220	+8
New Markets	356	389	380	-6
Inter-segment sales	(140)	(139)	(139)	
Sales¹	3,922	4,170	4,120	-5
Clean Air	269	295	293	-8
Efficient Natural Resources	268	256	253	+6
Health	31	27	27	+15
New Markets	9	(1)	(2)	n/a
Corporate	(73)	(38)	(38)	
Underlying operating profit¹	504	539	533	-5

¹Sales and underlying operating profit are non-GAAP measures (see note 16). Sales excludes the sale of precious metals. Underlying operating profit excludes profit or loss on disposal of businesses, gain or loss on significant legal proceedings, together with associated legal costs, amortisation of acquired intangibles and major impairment and restructuring charges.

Notes on the Preliminary Accounts

for the year ended 31st March 2021

3 Revenue

Products and services

The group's principal products and services by operating sector and sub-sector are disclosed in the table below, together with information regarding performance obligations and revenue recognition. Revenue is recognised by the group as contractual performance obligations to customers are completed.

Sub-sector	Primary industry	Principal products and services	Performance obligations	Revenue recognition
Clean Air				
Light Duty Catalysts	Automotive	Catalysts for cars and other light duty vehicles	Point in time	On despatch or delivery
Heavy Duty Catalysts	Automotive	Catalysts for trucks, buses and non-road equipment	Point in time	On despatch or delivery
Efficient Natural Resources				
Catalyst Technologies	Chemicals / oil and gas	Speciality catalysts and additives	Point in time	On despatch or delivery
		Process technology licences	Over time	Based on costs incurred or straight-line over the licence term ¹
		Engineering design services	Over time	Based on costs incurred
Platinum Group Metal Services	Various	Platinum Group Metal refining and recycling services	Over time	Based on output
		Other precious metal products	Point in time	On despatch or delivery
		Platinum Group Metal chemical and industrial products	Point in time	On despatch or delivery
Advanced Glass Technologies	Automotive	Precious metal pastes and enamels	Point in time	On despatch or delivery
Diagnostic Services	Oil and gas	Detection, diagnostic and measurement solutions	Over time	Based on costs incurred
Health				
Generics	Pharmaceuticals	Manufacture of active pharmaceutical ingredients	Point in time	On despatch or delivery
Innovators	Pharmaceuticals	Development and manufacture of active pharmaceutical ingredients	Over time	Based on costs incurred
New Markets				
Alternative Powertrain	Automotive	Battery materials and fuel cell technologies	Point in time	On despatch or delivery
	Consumer goods	Battery systems for a range of applications	Point in time	On despatch or delivery
Medical Device Components	Pharmaceuticals	Products found in devices used in medical procedures	Point in time	On despatch or delivery
Life Science Technologies	Pharmaceuticals / agriculture	Advanced catalysts	Point in time	On despatch or delivery

¹Revenue recognition depends on whether the licence is distinct in the context of the contract.

3 Revenue (continued)

Revenue from external customers by principal products and services

Year ended 31st March 2021

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Total £ million
Metal	4,573	6,995	2	181	11,751
Heavy Duty Catalysts	741	-	-	-	741
Light Duty Catalysts	1,641	-	-	-	1,641
Catalyst Technologies	-	436	-	-	436
Platinum Group Metal Services	-	376	-	-	376
Advanced Glass Technologies	-	66	-	-	66
Diagnostic Services	-	43	-	-	43
Generics	-	-	146	-	146
Innovators	-	-	90	-	90
Alternative Powertrain	-	-	-	225	225
Medical Device Components	-	-	-	60	60
Life Science Technologies	-	-	-	50	50
Other	30	-	-	18	48
Revenue	6,985	7,916	238	534	15,673

Year ended 31st March 2020

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Total £ million
Metal	3,555	6,725	6	121	10,407
Heavy Duty Catalysts	831	-	-	-	831
Light Duty Catalysts	1,742	-	-	-	1,742
Catalyst Technologies	-	513	-	-	513
Platinum Group Metal Services	-	298	-	-	298
Advanced Glass Technologies	-	70	-	-	70
Diagnostic Services	-	64	-	-	64
Generics	-	-	134	-	134
Innovators	-	-	89	-	89
Alternative Powertrain	-	-	-	237	237
Medical Device Components	-	-	-	71	71
Life Science Technologies	-	-	-	47	47
Other	44	-	-	30	74
Revenue	6,172	7,670	229	506	14,577

Notes on the Preliminary Accounts

for the year ended 31st March 2021

4 Operating profit

Operating profit is arrived at after charging / (crediting):

	2021 £ million	2020 £ million
Total research and development expenditure	194	199
Less: Development expenditure capitalised	(22)	(23)
Research and development expenditure charged to the income statement	172	176
Less: External funding received – from governments	(12)	(13)
– from other organisations	-	(1)
Net research and development expenditure charged to the income	160	162
Inventories recognised as an expense	13,689	12,585
Write-down of inventories recognised as an expense	27	70
Reversal of write-down of inventories from increases in net realisable	(12)	(17)
Net gains on foreign exchange	(56)	(17)
Net losses on foreign currency forwards at fair value through profit or loss	58	24
Past service credit	(3)	(20)
<i>Depreciation of:</i>		
Property, plant and equipment	144	140
Right-of-use assets	14	14
Depreciation	158	154
<i>Amortisation of:</i>		
Internally generated intangible assets	3	3
Acquired intangibles	10	12
Other intangible assets	19	9
Amortisation	32	24
Impairment losses included in administrative expenses	31	10
Impairment losses included in amortisation of acquired intangibles	-	1
Impairment losses	31	11
Impairment losses included in major impairment and restructuring	91	135
Restructuring charges included in major impairment and restructuring	80	5
Major impairment and restructuring charges (note 5)	171	140
<i>Fees payable to the company's auditor and its associates for:</i>		
The audit of these accounts	2.0	1.2
The audit of the accounts of the company's subsidiaries	2.3	2.2
The audit of prior period accounts	0.7	0.9
Total audit fees	5.0	4.3
Audit-related assurance services	0.3	0.2
Other services	-	0.4
Total non audit fees	0.3	0.6
Total fees payable to the company's auditor and its associates	5.3	4.9

5 Major impairment and restructuring charges

	2021 £ million	2020 £ million
Property, plant and equipment	31	90
Right-of-use assets	1	1
Goodwill	-	7
Other intangible assets	59	31
Inventories	-	(3)
Trade and other receivables	-	9
Impairment losses	91	135
Restructuring charges	80	5
Total major impairments and restructuring charges	171	140

Major impairment and restructuring charges are shown separately on the face of the income statement and excluded from underlying operating profit (see note 16).

Through our programme of active efficiency initiatives, we are transforming our organisation to create a more simple and efficient group, allowing us to act with greater agility and pace in a dynamic external environment. This includes the consolidation of our Clean Air manufacturing footprint and implementation of the new group operating model. Total costs associated with the group's programme amount to £311 million of which £140 million was recognised in prior periods, and £171 million during this year:

- **Clean Air manufacturing plants,** We have accelerated the rebalancing of production into our key plants in North Macedonia, and new facilities in Poland and China to create a simplified and agile structure. As a result, the carrying value of our plant that was impaired in the prior year was further impaired by £19 million to £2 million, together with associated information systems £30 million. The impairments were based on a fair value less costs of disposal assessment, with our assessment of the market value of the plant based on internal data (level 3 inputs – based on the IFRS 13 fair value hierarchy). The Clean Air restructuring charge was £53 million and includes substantial implementation and redundancy costs.
- **Efficient Natural Resources operating model,** The operating model initiative targets to remove duplication, standardise global systems and processes and reduce complexity to increase overall effectiveness and efficiency. The Efficient Natural Resources restructuring charge was £10 million and includes substantial redundancy costs.
- **Efficient Natural Resources site closure,** The operating model workstream within Efficient Natural Resources includes closure of the Catacel Ravenna facility in Ohio which we acquired in 2014. The site was closed in February 2021 and results in a £7 million impairment charge. A further restructuring charge of £4 million for site closure and redundancy costs was recognised.
- **Health footprint consolidation,** Closure of a production unit in Scotland was announced during the year. Operations will be wound down over the next two years with production transferred to other units, this results in a £5 million impairment charge. The sector is also right-sizing another business unit, combined with this a further restructuring charge of £6 million is recognised of which the majority is redundancy and compliance costs, associated information systems were impaired by £6 million.
- **Battery Materials LFP business,** In the prior year, the Battery Materials lithium iron phosphate (LFP) business was impaired by £57 million. This was due to the anticipated site closure following sales that fell short of expectations and focusing our science and innovative solutions on cathode materials that are truly market leading, principally eLNO, our ultra-high energy density cathode material. During the year a wet plant including associated inventory that was previously written down to £nil was sold for £3 million, a decision to close the remainder of the LFP site was announced which resulted in closure costs of £5 million.

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5 Major impairment and restructuring charges (continued)

- **New Markets businesses**, Our drive for efficiency and disciplined capital allocation enhances returns, and we continue to actively manage our portfolio. In November 2020, we divested our activities in Water and Atmosphere Control Technologies which are not core in our growth strategy. In accordance with IFRS 5, the businesses were disclosed as a disposal group held for sale in our half year results which resulted in a £4 million impairment charge following a fair value assessment of Water. Other restructuring activities within New Markets results in a restructuring charge of £1 million related to redundancy costs.
- **Group wide organisational efficiencies**, The group function is reviewing the existing corporate functional organisation structures, cost base and efficiency opportunities. In the year to 31st March 2021, £4 million had been charged for restructuring costs and a £20 million impairment charge following a review of the scope of the roll out of the global enterprise resource planning (ERP).

6 Earnings per share

	2021 pence	2020 pence
Basic	106.5	132.3
Diluted	106.4	132.1

Earnings per ordinary share have been calculated by dividing profit for the period by the weighted average number of shares in issue during the period.

Weighted average number of shares in issue

	2021	2020
Basic	192,711,413	192,437,993
Dilution for long term incentive plans	260,753	314,053
Diluted	192,972,166	192,752,046

7 Dividends

A final dividend of 50.0 pence per ordinary share has been proposed by the board which will be paid on 3rd August 2021 to shareholders on the register at the close of business on 11th June 2021, subject to shareholders' approval. The estimated amount to be paid is £97 million and has not been recognised in these accounts.

	2021 £ million	2020 £ million
2018/19 final ordinary dividend paid – 62.25 pence per share	-	120
2019/20 interim ordinary dividend paid – 24.50 pence per share	-	47
2019/20 final ordinary dividend paid – 31.125 pence per share	60	-
2020/21 interim ordinary dividend paid – 20.00 pence per share	39	-
Total dividends	99	167

Notes on the Preliminary Accounts

for the year ended 31st March 2021

8 Property, plant and equipment

	Freehold land and buildings £ million	Leasehold improvements £ million	Plant and machinery £ million	Assets in the course of construction £ million	Total £ million
Cost					
At 1st April 2020	627	24	2,171	486	3,308
Additions	1	-	28	254	283
Reclassification	78	10	247	(335)	-
Disposals	(1)	(1)	(29)	(6)	(37)
Disposal of businesses (note 10)	-	(1)	(10)	-	(11)
Exchange adjustments	(38)	(1)	(97)	(22)	(158)
At 31st March 2021	667	31	2,310	377	3,385
Accumulated depreciation and impairment					
At 1st April 2020	317	17	1,554	17	1,905
Charge for the year	20	1	123	-	144
Impairment losses	3	-	27	3	33
Disposals	(2)	(1)	(26)	(1)	(30)
Disposal of businesses (note 10)	-	-	(7)	-	(7)
Exchange adjustments	(17)	-	(65)	(2)	(84)
At 31st March 2021	321	17	1,606	17	1,961
Carrying amount at 31st March 2021	346	14	704	360	1,424
Carrying amount at 1st April 2020	310	7	617	469	1,403

During the year, the group recognised impairments in respect of four sites and plants, Clean Air (£18 million), Efficient Natural Resources (£4 million), Health (£5 million), and New Markets (£4 million), which have been included in major impairment and restructuring charges (see note 5). The group monitors impairment triggers and performs impairment reviews as directed by accounting policies which resulted in additional impairments of £2 million, which have been recognised in underlying operating profit.

Notes on the Preliminary Accounts

for the year ended 31st March 2021

9 Other intangible assets

	Customer contracts and relationships £ million	Computer software £ million	Patents, trademarks and licences £ million	Acquired research and technology £ million	Development expenditure £ million	Total £ million
Cost						
At 1st April 2020	146	321	64	50	218	799
Additions	-	53	-	-	22	75
Reclassifications between categories	-	-	5	(5)	-	-
Disposals	-	(3)	(2)	-	(4)	(9)
Disposal of businesses (note 10)	(9)	-	-	(1)	-	(10)
Exchange adjustments	(4)	(4)	(2)	(2)	(10)	(22)
At 31st March 2021	133	367	65	42	226	833
Accumulated amortisation and impairment						
At 1st April 2020	113	71	40	39	140	403
Charge for the year	5	19	1	4	3	32
Impairment losses	-	58	9	-	-	67
Disposals	-	(2)	(1)	-	(4)	(7)
Disposal of businesses (note 10)	(4)	-	-	(1)	-	(5)
Exchange adjustments	(6)	(2)	(3)	(1)	(4)	(16)
At 31st March 2021	108	144	46	41	135	474
Carrying amount at 31st March 2021	25	223	19	1	91	359
Carrying amount at 1st April 2020	33	250	24	11	78	396

During the year, the group recognised impairments in respect of licences (£3 million) as part of a site closure in Efficient Natural Resources and information systems (£56 million), which have been included in major impairment and restructuring charges (see note 5). The group monitors impairment triggers and performs impairment reviews as directed by accounting policies which resulted in additional impairments of £8 million, which have been recognised in underlying operating profit.

10 Disposals

Water and Atmosphere Control Technologies:

On 17th November 2020, the group completed the sale of its Water business for a cash consideration of £1 million. The business was disclosed as a disposal group held for sale as at 30th September 2020 which in accordance with IFRS 5 resulted in an impairment charge of £4 million following a fair value assessment.

On 16th November 2020, the group completed the sale of its Atmosphere Control Technologies business for a cash consideration of £33 million. The business was disclosed as a disposal group held for sale as at 30th September 2020. Upon the disposal of Atmosphere Control Technologies, and in accordance with IAS 21, *The Effects of Changes in Foreign Exchange Rates*, we have recycled the cumulative currency translation reserve through the income statement during the year. This has resulted in a cumulative currency translation gain of £4 million and overall loss on disposal of £1 million.

	Water	Atmosphere Control Technologies	Total
	£ million	£ million	£ million
Proceeds			
Cash consideration	1	33	34
Cash and cash equivalents disposed	-	(14)	(14)
Net cash consideration	1	19	20
Disposal costs paid	-	(1)	(1)
Cash inflow per cash flow statement	1	18	19
Assets and liabilities disposed			
Non-current assets			
Property, plant and equipment	-	4	4
Right-of-use-assets	-	1	1
Goodwill	-	9	9
Other intangible assets	-	5	5
Current assets			
Inventories	1	5	6
Trade and other receivables	1	5	6
Cash and cash equivalents - cash and deposits	-	14	14
Current liabilities			
Trade and other payables	(1)	(5)	(6)
Non-current liabilities			
Lease liabilities	-	(1)	(1)
Net assets disposed	1	37	38

	Water	Atmosphere Control Technologies	Total
	£ million	£ million	£ million
Net cash consideration	1	33	34
Less: carrying amount of net assets sold	(1)	(37)	(38)
Less: disposal costs	-	(1)	(1)
Cumulative currency translation gain recycled from other comprehensive income	-	4	4
Loss recognised in the income statement	-	(1)	(1)

Notes on the Preliminary Accounts

for the year ended 31st March 2021

11 Post-employment benefits

Background

The group operates a number of post-employment benefit plans around the world, the forms and benefits of which vary with conditions and practices in the countries concerned. The major defined benefit plans are pension plans and post-retirement medical plans in the UK and the US.

Financial assumptions

	2021 UK plan %	2021 US plans %	2021 Other plans %	2020 UK plan %	2020 US plans %	2020 Other plans %
First year's rate of increase in salaries	3.40	3.00	2.06	-	-	2.15
Ultimate rate of increase in salaries	3.40	3.00	2.06	2.60	3.00	2.15
Rate of increase in pensions in payment	3.05	-	1.70	2.50	-	1.70
Discount rate	2.10	3.00	1.53	2.30	3.00	1.87
Inflation		2.20	1.64		2.20	1.65
- UK Retail Prices Index (RPI)	3.20			2.50		
- UK Consumer Prices Index (CPI)	2.65			1.85		

Financial information

Movements in the net post-employment benefit assets and liabilities, including reimbursement rights, were:

	UK pension - legacy section £ million	UK pension - cash balance section £ million	UK post- retirement medical benefits £ million	US pensions £ million	US post- retirement medical benefits £ million	Other £ million	Total £ million
At 1st April 2020	306	3	(12)	(24)	(27)	(28)	218
Current service cost - in operating profit	(6)	(20)	-	(9)	(1)	(1)	(37)
Past service credit - in operating profit	(1)	-	4	-	-	-	3
Administrative expenses - in operating profit	(3)	-	-	(1)	-	-	(4)
Interest	7	(1)	-	(1)	(1)	-	4
Remeasurements	(126)	(9)	-	(4)	(1)	(1)	(141)
Company contributions	9	21	-	16	1	1	48
Exchange	-	-	-	3	4	2	9
At 31st March 2021	186	(6)	(8)	(20)	(25)	(27)	100

The remeasurement loss due to changes in financial assumptions in the legacy section of the UK pension plan during the year ended 31st March 2021 mainly reflects an increase in the UK market-implied inflation and associated assumptions.

The post-employment benefit assets and liabilities are included in the balance sheet as follows:

	2021 Post- employment benefit net assets £ million	2021 Employee benefit net obligations £ million	2021 Total £ million	2020 Post- employment benefit net assets £ million	2020 Employee benefit net obligations £ million	2020 Total £ million
UK pension - legacy section	186	-	186	306	-	306
UK pension - cash balance section	-	(6)	(6)	3	-	3
UK post-retirement medical benefits	-	(8)	(8)	-	(12)	(12)
US pensions	-	(20)	(20)	-	(24)	(24)
US post-retirement medical benefits	6	(31)	(25)	7	(34)	(27)
Other	2	(29)	(27)	1	(29)	(28)
Total post-employment plans	194	(94)	100	317	(99)	218
Other long-term employee benefits		(4)			(5)	
Total long-term employee benefit obligations		(98)			(104)	

12 Fair values

Fair value hierarchy

Fair values are measured using a hierarchy where the inputs are:

- Level 1 – quoted prices in active markets for identical assets or liabilities.
- Level 2 – not level 1 but are observable for that asset or liability either directly or indirectly.
- Level 3 – not based on observable market data (unobservable).

Fair value of financial instruments

Certain of the group's financial instruments are held at fair value. The fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the balance sheet date.

The fair value of forward foreign exchange contracts, interest rate swaps, forward precious metal price contracts and currency swaps is estimated by discounting the future contractual cash flows using forward exchange rates, interest rates and prices at the balance sheet date.

The fair value of trade and other receivables measured at fair value is the face value of the receivable less the estimated costs of converting the receivable into cash.

The fair value of money market funds is calculated by multiplying the net asset value per share by the investment held at the balance sheet date.

There were no transfers of any financial instrument between the levels of the fair value hierarchy during the current or prior years.

	2021 £ million	2020 £ million	Fair value hierarchy Level
Financial instruments measured at fair value			
Non-current			
Investments at fair value through other comprehensive income	53	49	1
Interest rate swaps	20	34	2
Borrowings and related swaps	(3)	(6)	2
Current			
Trade receivables ¹	423	328	2
Other receivables ²	58	72	2
Cash and cash equivalents - money market funds	462	192	2
Other financial assets ³	44	28	2
Other financial liabilities ³	(18)	(50)	2
Financial instruments not measured at fair value			
Non-current			
Borrowings and related swaps	(1,249)	(988)	
Lease liabilities	(51)	(64)	
Current			
Cash and cash equivalents - cash and deposits	119	112	
Cash and cash equivalents - bank overdrafts	(36)	(31)	
Borrowings and related swaps	(26)	(331)	
Lease liabilities	(11)	(12)	

¹ Trade receivables held in a part of the group with a business model to hold trade receivables for collection or sale. The remainder of the group operates a hold to collect business model and receives the face value, plus relevant interest, of its trade receivables from the counterparty without otherwise exchanging or disposing of such instruments.

² Other receivables with cash flows that do not represent solely the payment of principal and interest.

³ Includes forward foreign exchange contracts, forward precious metal price contracts and currency swaps.

Notes on the Preliminary Accounts

for the year ended 31st March 2021

12 Fair values (continued)

The fair value of financial instruments, excluding accrued interest, is approximately equal to book value except for:

	2021		2020	
	Carrying amount £ million	Fair value £ million	Carrying amount £ million	Fair value £ million
US Dollar Bonds 2022, 2023, 2025, 2027, 2028 and 2030	(662)	(689)	(514)	(496)
Euro Bonds 2021, 2023, 2025, 2028 and 2030	(186)	(193)	(264)	(247)
Sterling Bonds 2024 and 2025	(110)	(116)	(110)	(108)
KfW US dollar loan 2024	(36)	(39)	(41)	(41)

The fair values are calculated using level 2 inputs by discounting future cash flows to net present values using appropriate market interest rates prevailing at the year end.

13 Precious metal leases

The group leases precious metals to fund temporary peaks in metal requirements provided market conditions allow. These leases are from banks for specified periods (less than 12 months) and the group pays a fee which is expensed on a straight-line basis over the lease term in finance costs. The group holds sufficient precious metal inventories to meet all the obligations under these lease arrangements as they fall due. At 31st March 2021, precious metal leases were £437 million (31st March 2020: £451 million) at year end prices.

14 Contingent liabilities

The group is involved in various disputes and claims which arise from time to time in the course of its business including, for example, in relation to commercial matters, product quality or liability, employee matters and tax audits. The group is also involved from time to time in the course of its business in legal proceedings and actions, engagement with regulatory authorities and in dispute resolution processes. These are reviewed on a regular basis and, where possible, an estimate is made of the potential financial impact on the group. In appropriate cases a provision is recognised based on advice, best estimates and management judgement. Where it is too early to determine the likely outcome of these matters, no provision is made. Whilst the group cannot predict the outcome of any current or future such matters with any certainty, it currently believes the likelihood of any material liabilities to be low, and that such liabilities, if any, will not have a material adverse effect on its consolidated income, financial position or cash flows.

On a specific matter, the group previously disclosed that it had been informed by two customers of failures in certain engine systems for which the group supplied a particular coated substrate as a component for their customers' emissions after-treatment systems. The particular coated substrate was sold to only these two customers. The group has not been contacted by any regulatory authority about these engine system failures. The reported failures have not been demonstrated to be due to the coated substrate supplied by the group. As previously disclosed, we settled with one of these customers on mutually acceptable terms with no admission of fault.

Having reviewed its contractual obligations and the information currently available to it, the group believes it has defensible warranty positions in respect of its supplies of coated substrate for the after-treatment systems in the affected engines remaining at issue. If required, it will vigorously assert its available contractual protections and defences. The outcome of any discussions relating to the matters raised is not certain, nor is the group able to make a reliable estimate of the possible financial impact at this stage, if any. The group works with all its customers to ensure appropriate product quality and we have not received claims in respect of our emissions after-treatment components from this or any other customer. Our vision is for a world that's cleaner and healthier; today and for future generations. We are committed to enabling improving air quality and we work constructively with our customers to achieve this.

14 Contingent liabilities (continued)

On a separate matter, the group is involved in investigating and remediating environmental contamination at certain sites for which it has been identified as a potentially responsible party under US law. Johnson Matthey Inc. is party to litigation brought by the Pennsylvania Department of Environmental Protection regarding contamination at a site in Chester County, Pennsylvania, that was operated by Johnson Matthey Inc. between 1951 and 1969. A site investigation has been completed, but remediation has not yet commenced. Johnson Matthey has asserted various legal defences. In addition, there are several variables that may influence the nature of the remediation to be conducted, such as the future use of the site. Whether and to what extent Johnson Matthey and other potentially responsible parties (given subsequent use of the site by third-party entities) have any liability for the remediation has not yet been determined. It is the directors' current view that the group cannot reliably assess the outcome of the litigation nor reasonably estimate the quantum of future remediation costs or the group's share of such costs and as such no provision for the remediation has been recognised in these consolidated accounts. Estimated legal and technical fees associated with the litigation of £2 million have been provided for as at 31st March 2021.

15 Transactions with related parties

There were no material changes in related party relationships in the year ended 31st March 2021 and no related party transactions have taken place which have materially affected the financial position or performance of the group during the year.

Notes on the Preliminary Accounts

for the year ended 31st March 2021

16 Non-GAAP measures

The group uses various measures to manage its business which are not defined by generally accepted accounting principles (GAAP). The group's management believes these measures provide valuable additional information to users of the accounts in understanding the group's performance. Certain of these measures are financial Key Performance Indicators which measure progress against our strategy.

Definitions

Measure	Definition	Purpose
Sales ¹	Revenue excluding sales of precious metals to customers and the precious metal content of products sold to customers.	Provides a better measure of the growth of the group as revenue can be heavily distorted by year on year fluctuations in the market prices of precious metals and, in many cases, the value of precious metals is passed directly on to customers.
Underlying operating profit ²	Operating profit excluding non-underlying items.	Provides a measure of operating profitability that is comparable over time.
Underlying operating profit margin ^{1, 2}	Underlying operating profit divided by sales.	Provides a measure of how we convert our sales into underlying operating profit and the efficiency of our business.
Underlying profit before tax ²	Profit before tax excluding non-underlying items.	Provides a measure of profitability that is comparable over time.
Underlying profit for the year ²	Profit for the year excluding non-underlying items and related tax effects.	Provides a measure of profitability that is comparable over time.
Underlying earnings per share ^{1, 2}	Underlying profit for the year divided by the weighted average number of shares in issue.	Our principal measure used to assess the overall profitability of the group.
Return on invested capital (ROIC) ¹	Annualised underlying operating profit divided by the 12 month average equity, excluding post tax pension net assets, plus average net debt for the same period.	Provides a measure of the group's efficiency in allocating the capital under its control to profitable investments. The group has a long-term target of a return on invested capital of 20% to ensure focus on efficient use of the group's capital.
Average working capital days (excluding precious metals) ¹	Monthly average of non-precious metal related inventories, trade and other receivables and trade and other payables (including any classified as held for sale) divided by sales for the last three months multiplied by 90 days.	Provides a measure of efficiency in the business with lower days driving higher returns and a healthier liquidity position for the group.
Free cash flow	Net cash flow from operating activities after net interest paid, net purchases of non-current assets and investments, dividends received from joint ventures and associates and the principal element of lease payments.	Provides a measure of the cash the group generates through its operations, less capital expenditure.
Net debt (including post tax pension deficits) to underlying EBITDA	Net debt, including post tax pension deficits and quoted bonds purchased to fund the UK pension (excluded when the UK pension plan is in surplus) divided by underlying EBITDA for the same period.	Provides a measure of the group's ability to repay its debt. The group has a long-term target of net debt (including post tax pension deficits) to underlying EBITDA of between 1.5 and 2.0 times, although in any given year it may fall outside this range depending on future plans.

¹Key Performance Indicator

²Underlying profit measures are before profit or loss on disposal of businesses, gain or loss on significant legal proceedings, together with associated legal costs, amortisation of acquired intangibles, major impairment and restructuring charges and, where relevant, related tax effects. These items have been excluded by management as they are not deemed to be relevant to an understanding of the underlying performance of the business.

Notes on the Preliminary Accounts

for the year ended 31st March 2021

16 Non-GAAP measures (continued)

Underlying profit measures exclude the following non-underlying items which are shown separately on the face of the income statement:

- **Profit or loss on disposal of businesses**, In the prior year the group released a residual provision for environmental liabilities of £2 million which has originally been recognised in respect of the disposal of Johnson Matthey Gold and Silver Refining Holdings in March 2015. The time limit on claims was five years and no claims have been received.
- **Amortisation of acquired intangibles**, Amortisation and impairment of intangible assets which arose on the acquisition of businesses totalled £10 million (2020: £13 million).
- **Major impairment and restructuring charges**, The group recognised £171 million in major impairment and restructuring charges (2020: £140 million) see note 5.

Reconciliations to GAAP measures

Sales

See note 2.

Underlying profit measures

Year ended 31st March 2021

	Operating profit £ million	Profit before tax £ million	Tax expense £ million	Profit for the year £ million
Underlying	504	419	(68)	351
Amortisation of acquired intangibles	(10)	(10)	2	(8)
Major impairment and restructuring charges	(171)	(171)	33	(138)
Reported	323	238	(33)	205

Year ended 31st March 2020

	Operating profit £ million	Profit before tax £ million	Tax expense £ million	Profit for the year £ million
Underlying	539	455	(72)	383
Profit on disposal of businesses	2	2	-	2
Amortisation of acquired intangibles	(13)	(13)	3	(10)
Major impairment and restructuring charges	(140)	(140)	16	(124)
Interest on non-underlying tax provisions	-	1	-	1
Change in non-underlying tax provisions	-	-	3	3
Reported	388	305	(50)	255

Underlying earnings per share

	2021	2020
Underlying profit for the year (£ million)	351	383
Weighted average number of shares in issue (millions)	192.7	192.4
Underlying earnings per share (pence)	182.0	199.2

16 Non-GAAP measures (continued)

Return on invested capital (ROIC)

	2021 £ million	2020 £ million
Underlying operating profit	504	539
Average net debt	1,294	1,489
Average equity	2,771	2,733
Average capital employed	4,065	4,222
Less: Average pension net assets	(261)	(212)
Less: Average related deferred taxation	47	32
Average capital employed (excluding post tax pension net assets)	3,851	4,042
ROIC (excluding post tax pension net assets)	13.1%	13.3%
ROIC	12.4%	12.8%

Average working capital days (excluding precious metals)

	2021 £ million	2020 £ million
Inventories	1,814	1,902
Trade and other receivables	2,422	2,077
Trade and other payables	(3,325)	(2,745)
Total working capital	911	1,234
Less: Precious metal working capital	(552)	(597)
Working capital (excluding precious metals)	359	637
Average working capital days (excluding precious metals)	57	63

Free cash flow

	2021 £ million	2020 £ million
Net cash inflow from operating activities	769	598
Interest received	66	104
Interest paid	(159)	(202)
Purchases of property, plant and equipment	(304)	(332)
Purchases of intangible assets	(77)	(111)
Proceeds from sale of businesses	19	-
Proceeds from sale of assets held for sale	-	7
Proceeds from sale of non-current assets	5	1
Principal element of lease payments	(14)	(13)
Free cash flow	305	52

16 Non-GAAP measures (continued)

Net debt (including post tax pension deficits) to underlying EBITDA

	2021 £ million	2020 £ million
Cash and deposits	119	112
Money market funds	462	192
Bank	(36)	(31)
Cash and cash equivalents	545	273
Borrowings and related swaps - current	(26)	(331)
Borrowings and related swaps - non-current	(1,252)	(994)
Interest rate swaps - non-current	20	34
Lease liabilities - current	(11)	(12)
Lease liabilities - non-current	(51)	(64)
Net debt	(775)	(1,094)
Increase / (decrease) in cash and cash equivalents	276	(103)
Less: Increase in borrowings	(70)	(12)
Less: Principal element of lease payments	14	13
Increase in net debt resulting from cash flows	220	(102)
New leases,	(3)	(13)
Disposal of businesses	1	1
Exchange differences on net debt	107	(47)
Other non-cash movements	(6)	10
Movement in net debt	319	(151)
Net debt at beginning of year	(1,094)	(866)
Impact of adoption of IFRS 16	-	(77)
Net debt at end of year	(775)	(1,094)
Net debt	(775)	(1,094)
Add: Pension deficits	(49)	(53)
Add: Related deferred tax	9	10
Net debt (including post tax pension deficits)	(815)	(1,137)
Underlying operating profit	504	539
Add back: Depreciation and amortisation excluding amortisation of acquired intangibles	180	166
Underlying EBITDA	684	705
Net debt (including post tax pension deficits) to underlying EBITDA	1.2	1.6
Underlying EBITDA	684	705
Depreciation and amortisation	(190)	(179)
Major impairment and restructuring charges	(171)	(140)
Profit on disposal of businesses ¹	-	2
Finance costs	(158)	(195)
Finance income	73	109
Share of profits of joint ventures and associates	-	3
Income tax expense	(33)	(50)
Profit for the year	205	255

¹The loss on disposal of businesses for 2021 of £1 million is included in underlying operating profit.

Financial Calendar

2021

27th May

Announcement of results for the year ending 31st March 2021

29th July

130th Annual General Meeting (AGM)

Cautionary Statement

This announcement contains forward looking statements that are subject to risk factors associated with, amongst other things, the economic and business circumstances occurring from time to time in the countries and sectors in which the group operates. It is believed that the expectations reflected in this announcement are reasonable but they may be affected by a wide range of variables which could cause actual results to differ materially from those currently anticipated.

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