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News Release

Thursday 19th November 2020, 7.00 am

Half year results for the six months ended 30th September 2020

Successfully navigating a challenging period and well positioned for the future

Robert MacLeod, Chief Executive, commented:
The COVID-19 pandemic has created great uncertainty for businesses and society globally. Our priority has been the safety of our people, customers, suppliers and the communities in which we operate. It has been a challenging period but the steps we have taken in recent years to create a more simple, agile and efficient business, coupled with the dedication of all my colleagues across the whole of Johnson Matthey, have enabled us to navigate it well. I am pleased that we delivered operating performance ahead of market expectations, as well as good cash generation, and made further progress on transforming the group.

In Clean Air, following the temporary disruption earlier in the year, we are currently seeing a strong recovery in demand across all regions, especially in China. Efficient Natural Resources saw an impact from weaker demand in some end markets, although we are seeing positive momentum in licensing with new wins and are strongly positioned for the energy transition. Health is benefiting from new customer contracts which will also drive future growth. We are making good progress with the commercialisation of eLNO and, given our increasing confidence from customer testing, are now proceeding with the front end engineering design for our second commercial plant.

Across the group we have made structural improvements to our operating model to drive efficiency and increase capability, and are already starting to see the benefits. Our actions include executing on our targeted annualised cost savings of c.£225 million by the end of 2022/23; optimising our global manufacturing footprint in Clean Air and delivering significant working capital benefits by fundamentally changing our metal operating model. Consistent with our ongoing strategy to create a simpler and more efficient portfolio, we completed the disposal of two of our smaller non-core activities.

Activity in autos and other key markets has improved since the beginning of the COVID-19 pandemic and we expect a materially stronger second half in comparison to the first half of this year. However, the path of recovery remains uncertain and we are not providing quantitative guidance for the group overall for the year ending 31st March 2021. In light of the market backdrop, but also reflecting the group's performance and the importance of dividends to shareholders, the board has approved an interim dividend of 20.0 pence per share.

I am excited by our medium term growth prospects driven by accelerating global trends and we are purpose led to reduce the impact of climate change. We are investing for our future and remain focused on executing our growth opportunities including battery materials, fuel cells and our hydrogen production technologies.

Reported results		**Half year ended 30th September 2020**	**2019**	**% change**
Revenue	£ million	6,979	6,818	+2
Operating profit	£ million	68	259	-74
Profit before tax (PBT)	£ million	26	225	-88
Earnings per share (EPS)	pence	12.3	91.8	-87
Interim dividend per share	pence	20.0	24.5	-18

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Underlying performance[1]		Half year ended 30th September 2020	2019	% change	% change, constant rates[2]
Sales excluding precious metals (sales)[3]	£ million	1,679	2,124	-21	-20
Operating profit	£ million	151	265	-43	-42
Profit before tax	£ million	109	231	-53	-52
Earnings per share	pence	47.7	95.8	-50	

Reported results

- Reported revenue increased 2% driven by higher average precious metal prices
- Reported operating profit declined 74% driven by lower demand in Clean Air and major impairment and restructuring charges of £78 million
- Reported EPS declined 87%, reflecting lower reported operating profit and higher net finance charges
- Cash inflow from operating activities was £482 million

Underlying performance[1]

- Sales declined 20%, primarily driven by weaker demand in Clean Air. Sales in Efficient Natural Resources and New Markets also declined whilst Health grew
- Underlying operating profit declined 42% primarily driven by Clean Air. In aggregate, operating profit from our other operating sectors was broadly flat
- Underlying EPS declined 50% reflecting lower operating profit and higher net finance charges
- Capital expenditure of £148 million as we continue to invest in our strategic growth projects
- Free cash flow improved to £256 million benefiting from lower precious metal working capital, despite higher average precious metal prices
- Strong balance sheet maintained with net debt of £0.9 billion; net debt to EBITDA of 1.6 times
- Return on invested capital (ROIC) decreased to 10.4% primarily due to lower operating profit

Dividend

The group maintains a strong balance sheet, good access to liquidity and is cash generative. In a challenging period, operating performance improved progressively through the first half, although remains below the prior year with heightened levels of uncertainty persisting. In considering all these factors and recognising the importance of dividends to shareholders, the board has approved an interim dividend of 20.0 pence per share (1H 2019/20: 24.5 pence per share).

The board remains committed to a progressive dividend and anticipates restoring future dividend payments to levels seen prior to the COVID-19 pandemic when circumstances permit. The interim dividend will be paid to shareholders on 4th February 2021, with an ex dividend date of 26th November 2020.

Outlook for the year ending 31st March 2021

Activity in autos and other key markets has improved since the COVID-19 pandemic began earlier this year and we expect a materially stronger second half in comparison to the first half of this year. However, the path of recovery remains uncertain and we are not providing quantitative guidance for the group overall for the year ending 31st March 2021. Looking at each of our sectors:

- **Clean Air** performance recovered strongly through the first half. The global outlook for autos has improved, with external data now suggesting European and US automotive production could be down c.20% in our fiscal year, compared with the previous estimate of down c.25%, with China above the prior year. In heavy duty, external data suggests European and US production could be down c.30% with the Chinese market above the prior year. Order patterns remain volatile and visibility is low, meaning the actual outcome for the full year could still be materially different. Our flexible cost base, with c.75% of costs being variable before mitigation, enables us to manage different levels of activity

- **Efficient Natural Resources** full year operating performance is expected to be below the prior year, although we currently expect our usual seasonality and a stronger second half. Catalyst Technologies is likely to be below the prior year due to weaker demand whilst PGM Services is expected to be above the prior year, benefiting from higher average precious metal prices

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- In **Health** we continue to make progress with our new customer contracts for active pharmaceutical ingredients used in generic opioid addiction therapies and our work with innovator customers which will drive future growth. Consequently, we expect full year operating performance to be above the level of the prior year
- In **New Markets** we expect operating performance to be above the level of the prior year

We continue to drive efficiency and are making good progress against our targeted annualised cost savings of c.£225 million. From these initiatives, we are on track to deliver expected benefits of £59 million[4] in the year ending 31st March 2021, with costs in the year of c.£90 million. To support our medium term growth, we are continuing to invest in our strategic growth projects.

Appointment of interim Chief Financial Officer

As previously announced, Anna Manz will be stepping down as Chief Financial Officer and Executive Director of Johnson Matthey on 20th November 2020. We are pleased to announce the appointment of Karen Hayzen-Smith, currently Group Financial Controller, as interim Chief Financial Officer with immediate effect. Karen will not be appointed to the board.

Enquiries:

Investor Relations

Martin Dunwoodie	Director of Investor Relations	020 7269 8241
Louise Curran	Senior Investor Relations Manager	020 7269 8235
Jane Crosby	Investor Relations Manager	020 7269 8242

Media

Sally Jones	Director of Corporate Relations	020 7269 8407
Simon Pilkington	Tulchan Communications	020 7353 4200

Notes:

Vara consensus for underlying operating profit in the first half 2020/21 was £142 million (range: £122 million to £158 million) as at 18th November 2020.

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 46 to 49.
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.
3. Revenue excluding sales of precious metals to customers and the precious metal content of products sold to customers.
4. £59 million includes £30 million relating to Clean Air footprint and driving group organisational efficiency, and £29 million of procurement savings.

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Strategy update

Our vision is for a world that is cleaner and healthier; today and for future generations. With our expertise in science, we are developing sustainable solutions to tackle the world's most challenging problems. This includes addressing global trends such as climate change where the urgency for action is accelerating. We continue to invest in these growth areas and are making good strategic progress. More recently, in Europe and the US the macroeconomic environment has been impacted by COVID-19 whilst China has experienced a strong recovery with auto production above pre-pandemic levels.

Driving growth from our established businesses

- In **Clean Air**, we continue to benefit from tightening legislation in Europe and particularly Asia. In light duty, this legislation is driving fitment of higher value parts, which is well underway in Europe and in China. We are also beginning to see benefits in heavy duty from tightening legislation, particularly in China and India. To support this growth, our new plants in Europe and China are ramping up production giving us a global, efficient and agile manufacturing footprint. As we transform from a local to global operating model, we are focused on delivering excellent technology solutions and service to our customers, and driving further efficiency.

- In **Efficient Natural Resources**, we continue to focus our resources on selected, higher growth segments; target our R&D investment for future growth; and drive operational efficiency. We are making good strategic progress, which includes structurally changing our metal operating model (for further detail see page 6) and delivering against our efficiency plans. To support our longer term growth, we are committed to playing a key role in the energy transition. We are evolving our business and developing low carbon chemical processes, and work is already underway around renewable feedstocks. In addition, we have a significant opportunity in hydrogen and our continued work to develop a circular economy, for example battery materials recycling, means we are well positioned.

- In **Health**, we are benefiting from new multi-year supply agreements which will drive our future growth. This includes contracts with generic partners for the supply of active pharmaceutical ingredients (APIs) used in opioid addiction therapies. We continue to make progress towards delivering c.£100 million of operating profit from our pipeline of generic and innovator APIs. In the period we launched one innovator product, which is the supply of an immuno-oncology treatment to Immunomedics, and in October we received FDA (Food and Drug Administration) approval for a generic oncology therapy. On the innovator side, we also secured a new long term supply agreement with Sarepta Therapeutics. Whilst our new pipeline is advancing, we are seeing some pressure on our base business, specifically within ADHD therapies and bulk opiates, as our existing portfolio matures.

Executing now to capture medium term growth from climate change solutions

- In **Battery Materials**, we continue to make substantial progress in the commercialisation of eLNO as we target the automotive market for high energy cathode materials which is expected to be c.1,700kT by 2030[1]. We are around one third of the way through construction of our first commercial plant and progressing well with customers. In the period we have seen considerable interest from potential new customers, and our existing customers for both auto and non-auto applications continue to move into full cell testing. For non-auto customers the qualification process is typically faster and two have now moved to cell prototyping. This is a more advanced stage in which customers test their specific cell format. The work with our non-auto customers is providing valuable learnings ahead of auto customers moving through to this stage.

  Construction of our first commercial plant in Konin, Poland is on schedule and we expect commissioning to commence in 2022, with commercial production in 2024. Customer requirements are continuously evolving as they look to customise materials for their specific applications. As these requirements change and our understanding of them increases, we have gained even more confidence and are committing greater investment to support our customers getting to market. In finalising the design of the plant to build in the greater flexibility our customers require and maintaining speed to market, the cost of this plant has increased. As a result, we now expect the full cost to commercialisation of eLNO to be c.£550 million against our previous estimate of £350 million. This is a total project cost comprising investment in our pilot plant, application centres, commercial plant, research and development, and management costs.

Notes:
1. IHS and Johnson Matthey estimates.

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The knowledge we have gained in constructing the first commercial plant to support our customers' requirements means that we continue to expect further capacity will have a substantially lower capital intensity, moving towards a level which is comparable with other European plants[2]. At scale we expect this business will generate returns towards the upper end of the current industry average expected returns of 10-15%[3].

The exciting progress we are making with our customer pipeline alongside the size of the market we are targeting has given us the confidence to accelerate our scale up plans for eLNO and we are proceeding with the front end engineering design for our second commercial plant with 30kT capacity.

- **Hydrogen:** As the global transition to net zero accelerates and demand for clean energy increases, there will be fundamental changes across the energy supply chain. Hydrogen will be key in achieving net zero because it helps to decarbonise energy and transportation. There is increasing policy support for hydrogen solutions, promoting greater adoption of hydrogen, and the opportunity is significant. As a leader in hydrogen activities including fuel cells and hydrogen production technologies, we are strongly positioned.

  Fuel cells will play a key role in the decarbonisation of transportation. We have a strong position in this market, supplying critical components for fuel cell stacks, and our platinum group metal (pgm) expertise enables us to deliver high performance solutions optimised for specific applications. Our business has grown strongly in recent years and we have an established customer base including major global truck and automotive OEMs, and leading players in the important and fast growing Chinese market. We have a significant opportunity in heavy duty trucks and automotive applications and are working on platforms due to launch over the next few years. To support our future growth we are investing £15 million to double our capacity in the UK and China. Our new capacity in China is now complete and expected to be fully operational by January 2021. In the UK, our new capacity is progressing well and expected to be complete by the end of this fiscal year. We are already planning our next phase of expansion.

  Blue and green hydrogen production technologies will be critical in the transition to net zero. In blue hydrogen (production of hydrogen from natural gas with carbon capture), we have leading technology which is more efficient, with lower capital intensity[4] and captures over 95% of produced carbon dioxide at high pressure and purity, enabling easier transportation and storage. Commercialisation of our technology is progressing well. We are involved with the world scale HyNet and Acorn projects in the UK and have a strong pipeline of projects globally. In green hydrogen (production of hydrogen from electrolysis of water using renewable energy), we are well positioned with our proton exchange membrane (PEM) technology which is underpinned by our expertise in pgm catalysis and fuel cells. We are currently testing with leading electrolyser players.

Creating a more simple, agile and efficient group

We are transforming the group to create a more simple, agile and efficient organisation. Through the structural changes we have made to all aspects of how we run our business, we are driving further efficiency across our operations.

Driving cost efficiency

We are targeting total annualised cost savings of c.£225 million by the end of 2022/23. This includes recently announced annualised savings of at least £80 million relating to both the consolidation of our Clean Air footprint and group wide organisational efficiency, as well as £145 million of cost savings from previous initiatives including global procurement. Over three years the recently announced initiatives are expected to result in a reduction in staff numbers of c.2,500, subject to consultation. Of this reduction, c.300 took place in the first half. Total costs associated with these savings are expected to be c.£315 million, of which c.£110 million is cash. We have incurred costs of £289 million to date and expect remaining future restructuring costs of around £25 million, all of which is cash.

Notes:
2. Based on Bain benchmarking of competitors' European plants, giving average costs of c.$15k per tonne.
3. Bain estimates.
4. Compared to conventional steam methane reforming technology with carbon capture and storage. Johnson Matthey Technol. Rev., 2020, 64, (3), 357–37.

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In 2020/21, we expect to achieve £59 million of cost savings related to all our efficiency initiatives, of which £24 million was delivered in the first half. Related to these efficiency measures, we incurred one-off costs of £78 million[5] in the first half taken outside of underlying operating profit, of which £16 million was cash.

For further detail on these costs, please see page 16.

Key developments in the period include:

- **Procurement:** We expect to meet our targeted £100 million savings by the end of this fiscal year, previously expected by 2022/23
- **Clean Air footprint:** Our new world class plants in Poland and China are now in production, and our new plant in India will follow in 2021/22. We are progressively rebalancing production into our plant in North Macedonia, and new facilities in Poland and China
- **Driving organisational efficiency:** We have reviewed our group operating model to remove duplication of activities between the corporate centre and the sectors and reduce complexity across the organisation

Summary of efficiency initiatives

Initiative **£ million**	**Delivered to date**	**Annualised benefits by 2022/23**
Procurement[6]	84	100
Restructuring (2017)	25	25
Health footprint optimisation	20	20
Clean Air footprint	3	30
Group wide organisational efficiency	8	50
Total efficiency initiatives	**140**	**225**

Driving balance sheet efficiency

To improve the efficiency of our balance sheet, we have made fundamental changes to our metal operating model which has structurally reduced our precious metal working capital by c.£400 million[7] in the first half. Our actions include optimising our precious metal working capital across our businesses; contracting more effectively with our customers and enhancing the efficiency of our refining processes. These structural improvements, together with the immediate actions we took to manage the business through the pandemic, mean we have further strengthened our financial position. Going forward, the group is more resilient with our balance sheet less impacted by fluctuations in precious metal prices.

Focusing our portfolio

Our drive for efficiency and disciplined capital allocation enhances returns, and we continue to actively manage our portfolio. Post period end we divested our activities in Atmosphere Control Technologies and Water, which were not core to our growth strategy. Sales from these businesses in 2019/20 were c.£35 million in total. We continue to review our portfolio to increase focus on those businesses where we have a competitive advantage to drive value creation.

Notes:

5. £78 million includes £62 million of restructuring costs, of which £16 million was a cash cost in the half and the remaining £46 million will be a future cash cost, and £16 million of impairments.
6. Around three quarters of procurement initiatives will benefit the income statement, of which around two thirds will be reinvested to drive growth.
7. Based on 31st March 2020 prices.

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Summary of underlying operating results

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

Sales (£ million)	**Half year ended 30th September 2020**	**2019**	**% change**	**% change, constant rates**
Clean Air	1,003	1,392	-28	-27
Efficient Natural Resources	446	496	-10	-10
Health	119	111	+7	+8
New Markets	168	186	-10	-8
Eliminations	(57)	(61)		
Sales	**1,679**	**2,124**	**-21**	**-20**

Underlying operating profit (£ million)	**Half year ended 30th September 2020**	**2019**	**% change**	**% change, constant rates**
Clean Air	77	179	-57	-56
Efficient Natural Resources	81	94	-14	-12
Health	15	18	-21	-21
New Markets	5	(8)	n/a	n/a
Corporate	(27)	(18)		
Underlying operating profit	**151**	**265**	**-43**	**-42**

Reconciliation of underlying operating profit to operating profit (£ million)	**Half year ended 30th September 2020**	**2019**
Underlying operating profit	151	265
Amortisation of acquired intangibles	(5)	(6)
Major impairment and restructuring charges[1]	(78)	-
Operating profit	**68**	**259**

[1] For further detail on these items please see page 16.

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Operating results by sector

Clean Air

Clean Air impacted by COVID-19 but seeing demand recovering strongly

- Sales were materially below the prior year due to lower demand as a result of COVID-19, principally in Europe and the Americas whilst China was above the prior year. We saw a strong recovery as the half progressed
- In light duty, sales were down 23% as auto production volumes were adversely impacted by the pandemic. We benefited from tightening legislation which increased the value per vehicle in Europe and in particular China
- Heavy duty sales were down 33%, with Europe and the Americas down materially. Sales were partly offset by strong growth in China where we benefited from tightening legislation and government stimulus supporting the market
- Operating profit declined as expected, primarily driven by weaker markets in Europe and the Americas. We benefited from the absence of one-off costs in the prior period of c.£15 million due to manufacturing inefficiencies

	Half year ended 30th September		% change	% change, constant rates
	2020 £ million	2019 £ million		
Sales				
LDV Europe	372	540	-31	-30
LDV Asia	192	193	-1	+1
LDV Americas	116	171	-32	-32
Total Light Duty Vehicle Catalysts	**680**	**904**	**-25**	**-23**
HDD Americas	132	258	-49	-48
HDD Europe	98	154	-37	-37
HDD Asia	80	52	+54	+56
Total Heavy Duty Diesel Catalysts	**310**	**464**	**-33**	**-33**
Other – stationary	13	24	-47	-47
Total sales	**1,003**	**1,392**	**-28**	**-27**
Underlying operating profit	**77**	**179**	**-57**	**-56**
Margin	**7.7%**	**12.9%**		
Return on invested capital (ROIC)	**11.4%**	**26.5%**		
Reported operating profit	**42**	**178**	**-76**	

Strong recovery through the half

Following the temporary disruption earlier in the year, we have seen a strong recovery within our Clean Air business. This increased activity was led by underlying consumer demand, short term government incentives in China and automotive OEMs rebuilding inventory after unplanned shutdowns earlier in the year. However, we continue to see volatility in customer order patterns and there is limited visibility in the supply chain meaning recent strength should not be extrapolated. External expectations for auto and truck production are provided on page 2.

% change in global sales year-on-year

April	May	June	July	August	September	October
-75%	-60%	-20%	-1%	-2%	+17%	+14%

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Light Duty Vehicle (LDV) catalysts

In LDV catalysts, we provide catalysts for emission control after-treatment systems for cars and other light duty vehicles powered by diesel and gasoline. Our global LDV sales declined 23%, largely driven by Europe and the Americas due to COVID-19 and associated customer shutdowns. Asia was flat although our sales in China were up, supported by government stimulus.

Europe

In Europe, diesel accounts for c.80% of our LDV business and we maintained our strong market share. Sales of diesel catalysts decreased 30%, although our performance was ahead of the decline in market production. This largely reflected a better platform mix.

In Western Europe, diesel accounted for 28% of new passenger car sales in the first half of 2020/21, compared with 32% in the same period last year. Light duty commercial vehicles remain largely diesel today. When these are included, the overall share of diesel sales in Western Europe was 36% for the first half of 2020/21, compared with 39% in the same period of 2019/20.

In Europe, sales of gasoline catalysts were down 27% although ahead of the decline in market production driven by improved mix and benefits from tighter legislation. We maintained our market share.

Asia

Asia LDV was flat, well ahead of a market that declined, as we benefited from an uplift in value per vehicle due to tightening legislation, particularly in China and India. Specifically in China, although our market share declined, we saw good sales growth with consumer demand recovering strongly to above pre-pandemic levels, supported by government stimulus.

Americas

In the Americas, whilst sales were down 32% we maintained our market share and performance was slightly ahead of the market due to a better platform mix.

Heavy Duty Diesel (HDD) catalysts

In HDD catalysts, we provide catalysts for emission control after-treatment systems for trucks, buses and non-road equipment. Global sales were down 33%. We saw material declines in our HDD businesses in the Americas and Europe, although this was partly offset by significant growth in our HDD Asia business as we benefited from tighter legislation and market share gains.

Americas

In the Americas, our largest HDD region in which we have a significant market share, sales declined 48% broadly in line with market performance. Following the peak of the Class 8 truck cycle in September last year, the market has been declining and was further impacted by the pandemic. Based on external data, the Class 8 truck cycle appears to be at or near the bottom, but the timing and pace of recovery is uncertain.

Europe

In HDD Europe, sales declined 37% in line with the market.

Asia

Our Asian HDD businesses grew 56%, well ahead of market production. We benefited from a significant uplift in value per truck due to tightening legislation in China and India, as well as market share gains.

Underlying operating profit

Operating profit declined 56% and margin declined 5.2 percentage points. This was driven by weaker consumer demand and temporary disruption as a result of the COVID-19 pandemic, particularly in Europe and the Americas. In the half we benefited from the absence of one-off costs in the prior period of c.£15 million due to inefficiencies caused by the phasing of completion of our plant in Poland.

ROIC

ROIC was 11.4%, down 15.1 percentage points due to lower operating profit and higher invested capital from our new plants which are not yet yielding returns.

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Efficient Natural Resources

Weaker demand in Catalyst Technologies but positive developments in PGM Services

- Sales declined primarily due to weaker demand as a result of COVID-19 and the usual cyclicality of methanol and ammonia catalyst refills in Catalyst Technologies. This was partly offset by good growth in PGM Services which benefited from higher and more volatile average pgm prices
- Operating profit was lower reflecting weaker demand in Catalyst Technologies and Diagnostic Services partly offset by higher results from PGM Services

	Half year ended 30th September		% change	% change, constant rates
	2020 £ million	2019 £ million		
Sales				
Catalyst Technologies	208	274	-24	-24
PGM Services	190	150	+26	+26
Advanced Glass Technologies	27	37	-25	-25
Diagnostic Services	21	35	-40	-38
Total sales	**446**	**496**	**-10**	**-10**
Underlying operating profit	**81**	**94**	**-14**	**-12**
Margin	**18.2%**	**18.8%**		
Return on invested capital (ROIC)	**18.4%**	**12.9%**		
Reported operating profit	**59**	**91**	**-35**	

Catalyst Technologies

Our Catalyst Technologies business licenses key process technologies and manufactures high value speciality catalysts and additives for the chemical and oil and gas industries. During the period, the vast majority of our plants maintained operations and we continued to deliver for our customers whilst ensuring compliance with relevant guidelines.

Sales were down materially 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 plants already under construction prior to COVID-19.

Refill catalysts and additives impacted by end market weakness and usual cyclicality

This is recurring business which makes up the majority of sales within Catalyst Technologies. We saw weaker demand in some end markets including refill additives and formaldehyde, and also as some customers delayed orders. Following strong performance in recent periods, sales were lower in methanol and ammonia as expected due to the usual cyclicality of customer changeouts.

First fill catalysts grew as new plants came onstream

First fill catalysts are lumpy in nature and 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 methanol and hydrogen catalysts as new plants came onstream.

Licensing weaker in the period but a strong project pipeline

Our licensing business is dependent on new plant builds and revenue is recognised over the period of construction. Sales were down in the period partly reflecting project delays due to COVID-19. We are still seeing medium term decisions being made and in the first half we signed two new licenses and have a strong pipeline of projects.

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PGM Services

PGM Services is the world's leading secondary refiner of platinum group metals (pgms) and provides a strategic service to the group, mainly supporting Clean Air with security of metal supply in a volatile market. It comprises our pgm refining, recycling and trading activities and produces chemical compounds and industrial products containing pgms. In light of COVID-19, we adapted our operations accordingly and our refineries continued to operate, ensuring continued supply to our customers.

PGM Services benefited from higher average pgm prices

Sales increased 26% reflecting strong growth in our refinery and trading businesses as we benefited from higher and more volatile average pgm prices. In the first half, average palladium and rhodium prices were up 44% and 172% respectively, whilst the platinum price was broadly flat, compared to the same period last year. Sales of chemical products were broadly flat whilst sales of industrial products containing pgms were slightly down.

Advanced Glass Technologies

Advanced Glass Technologies mainly provides black obscuration enamels and silver paste for automotive glass applications. As expected, sales were lower driven by the automotive segment as a result of the slowdown in global car production due to COVID-19.

Diagnostic Services

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

Underlying operating profit

Operating profit declined 12% reflecting weaker demand in Catalyst Technologies and Diagnostic Services. This was partly offset by higher results from PGM Services, where we saw strength in our trading business and a £24 million benefit from higher average pgm prices, although some of this benefit was masked by higher costs in the refineries.

ROIC

ROIC increased to 18.4% due to increased operating profit driven by higher and more volatile average precious metal prices over the rolling 12 month period of measurement.

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Health

Sales benefited from new customer contracts, with operating profit slightly down as expected

- Sales growth in both Generics and Innovators supported by new customer contracts
- Operating profit declined slightly largely driven by a weaker business mix
- We made further progress towards delivering c.£100 million of operating profit from our pipeline of generic and innovator APIs, although we are seeing some pressure on our base business. From the pipeline we launched one innovator in the period and received regulatory approval for a generic molecule in October

	Half year ended 30th September 2020 £ million	2019 £ million	% change	% change, constant rates
Sales				
Generics	70	67	+6	+6
Innovators	49	44	+10	+10
Total sales	**119**	**111**	**+7**	**+8**
Underlying operating profit	**15**	**18**	**-21**	**-21**
Margin	**12.6%**	**16.5%**		
Return on invested capital (ROIC)	**4.6%**	**9.5%**		
Reported operating profit	**4**	**18**	**-79**	

Generics

Our Generics business develops and manufactures generic active pharmaceutical ingredients (APIs) for a variety of treatments. Sales were up, primarily driven by speciality opiates.

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

Sales of controlled APIs were broadly flat in the period with a mixed performance across the segment. Speciality opiates grew strongly reflecting increased demand across a number of products partly due to COVID-19, and in the opioid addiction therapy market where we signed multi-year supply agreements with generic partners. We expect to see further benefits from these contracts in the second half. Sales of APIs for ADHD treatments and bulk opiates in Europe were slightly down as we continue to see pressure on the base business.

Sales of non-controlled APIs were up reflecting higher demand 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.

Further progress with innovator customers

Our Innovators business saw good growth. This was largely driven by increased demand from Immunomedics for the manufacture of a drug linker used in the production of an immuno-oncology treatment for triple negative breast cancer. Immunomedics received approval for this therapy from the FDA (Food and Drug Administration) in April and is now increasing volumes to support commercial demand. We also saw increased sales as we entered a new five year supply agreement with Sarepta to continue supplying materials and services for their Duchenne Muscular Dystrophy treatments. As expected, Innovator sales were impacted following the cancellation of a project in the second half of last year that did not receive approval.

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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 6 products which delivered sales of c.£35 million in the half.

Overall, our pipeline comprises 59 molecules across generic APIs, innovator APIs and new applications. This includes the 6 launched molecules, of which one received approval in the period (Immunomedics) and one generic oncology treatment received approval from the FDA (Food and Drug Administration) in October. We have 10 generic molecules awaiting regulatory approval and one innovator project in late stage testing.

Underlying operating profit
Operating profit declined 21% largely driven by a weaker business mix, notably the cancellation of an innovator project in the second half of last year which was high margin.

ROIC
ROIC reduced to 4.6%, reflecting lower operating profit over the rolling 12 month period of measurement.

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New Markets

Strong growth in Fuel Cells; commercialisation of eLNO on track and advancing expansion plans

- Sales declined largely due to the impact of COVID-19 in Battery Systems and Medical Device Components, partly offset by strong growth in Fuel Cells
- Operating profit grew to £5 million, primarily due to the absence of an £8 million impairment in the prior year relating to the eLNO demo plant and a better mix in Life Science Technologies
- Commercialisation of eLNO remains on track and we are proceeding with the front end engineering design for our second commercial plant with 30kT capacity
- Investment in Fuel Cells to double capacity will be complete by the end of this financial year

	Half year ended 30th September		**% change**	**% change, constant rates**
	2020 £ million	**2019 £ million**		
Sales				
Alternative Powertrain	101	110	-8	-6
Medical Device Components	29	37	-23	-23
Life Science Technologies	25	23	+5	+7
Other	13	16	-11	-10
Total sales	**168**	**186**	**-10**	**-8**
Underlying operating profit / (loss)	**5**	**(8)**	**n/a**	**n/a**
Margin	**3.0%**	**-4.2%**		
Return on invested capital (ROIC)	**4.6%**	**-3.2%**		
Reported operating loss	**(7)**	**(10)**	**+27**	

Alternative Powertrain

Our Alternative Powertrain business 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 ultra-high energy density materials.

Sales declined 6%, primarily driven by Battery Systems which was adversely impacted by disruption caused by the COVID-19 pandemic.

Fuel Cells continues to grow strongly and investing for growth

We continue to see good momentum in Fuel Cells, with sales up 30% to £19 million driven by increased demand for both automotive and non-automotive applications in Asia. Our investment programme to double capacity is on track, with our new capacity in China now complete and expected to be fully operational by January 2021. Our new capacity in the UK is progressing well and expected to be complete by the end of this fiscal year.

Medical Device Components

Our Medical Device Components business leverages our science and technology to develop products found in devices used in medical procedures, some of which are elective. The postponement of some elective medical procedures due to the COVID-19 pandemic has resulted in a decline in sales of 23%.

Life Science Technologies

Our Life Science Technologies business provides advanced catalysts to the pharmaceutical and agricultural chemicals markets. This business was relatively unaffected by the pandemic and sales were up 7% as some orders were pulled forward into the first half.

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Underlying operating profit

Operating profit grew to £5 million primarily due to the absence of an £8 million impairment to the eLNO demo plant in the prior year and a better mix in Life Science Technologies.

ROIC

ROIC increased to 4.6% from a negative ROIC in the prior period driven by an improved operating performance in the half.

Corporate

Corporate costs in the period were £27 million, an increase of £9 million from the prior period, primarily due to higher bonus accruals, share based payments and pension charges.

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Research and development (R&D)

We invested £96 million in R&D in the half, including £9 million of capitalised R&D. Key areas of investment included next generation technologies in Clean Air, our eLNO cathode materials, improving the efficiency and resilience of our refineries in Efficient Natural Resources and our Health API product pipeline.

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 74% of the non-sterling denominated underlying operating profit in the half year ended 30th September 2020, were:

	Share of 1H 2020/21 non-sterling denominated underlying operating profit	Average exchange rate Half year ended 30th September		% change
		2020	2019	
US dollar	13%	1.27	1.26	+1
Euro	32%	1.12	1.13	-1
Chinese renminbi	29%	8.86	8.70	+2

For the half, the impact of exchange rates decreased sales by £24 million and decreased underlying operating profit by £3 million.

If current exchange rates (£:$ 1.28, £:€ 1.11, £:RMB 8.76) are maintained throughout the year ending 31st March 2021, foreign currency translation will have a positive impact of approximately £1 million on underlying operating profit. A one cent change in the average US dollar exchange rate has an impact of approximately £1 million on full year underlying operating profit, a one cent change in the average euro exchange rate has an impact of approximately £2 million 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

As we drive cost efficiency throughout the group, we are targeting annualised savings of c.£225 million by 2022/23. Total costs associated with these savings are expected to be c.£315 million, of which c.£110 million is cash. We have incurred costs of £289 million to date and expect remaining future restructuring costs of c.£25 million, all of which is cash.

Related to our efficiency measures, we incurred one-off costs of £78 million in the first half taken outside of underlying operating profit, of which £16 million was cash.

£ million	Costs incurred to 2019/20	Restructuring costs 1H 2020/21[1]	Total restructuring costs
Restructuring (2017)	(42)	-	(42)
Health footprint optimisation	(29)	-	(29)
Procurement[2]	-	-	-
Clean Air footprint	(61)	(14)	(91)
Group wide organisational efficiency	-	(58)	(70)
Other[3]	(79)	(6)	(85)
Total	**(211)**	**(78)**	**(317)**

Notes:
1. £78 million includes £62 million of restructuring costs, of which £16 million was a cash cost in the half and the remaining £46 million will be a future cash cost, and £16 million of impairments.
2. Around three quarters of procurement initiatives will benefit the income statement, of which around two thirds will be reinvested to drive growth.
3. Other includes Battery Materials LFP, Health product pipeline and other restructuring costs.

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Finance charges

Net finance charges in the half amounted to £41 million, up from £36 million in the first half of 2019/20 due to higher average interest rates across the mix of our borrowings and increased interest on our metal borrowings. Our interest costs do not decrease immediately with lower borrowings as we have secured funding over a longer period. With sustained lower borrowings we would expect interest costs to gradually reduce as these transactions mature.

Taxation

The effective tax rate on reported profit for the half ended 30th September 2020 was 7.8%, down from 21.6% in the prior period. This was due to significant exceptional costs arising in the first half, the majority of which should be tax deductible in markets with a higher effective tax rate, and the weighting of those costs in comparison to the underlying profit for the half year.

The tax charge on underlying profit before tax for the half year ended 30th September 2020 was £17 million, an effective underlying tax rate of 15.6%, down from 20.5% in the first half of 2019/20. The reduction in underlying effective tax rate was primarily driven by the recognition of provisions for uncertain tax positions in the prior period.

Post-employment benefits

IFRS – accounting basis

At 30th September 2020, 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 £175 million.

The cost of providing post-employment benefits in the year was £21 million, up from £12 million in the same period last year. The prior period post-employment benefits included a past service credit of £10 million, compared to no 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 latest actuarial valuations of our two US pension schemes showed a surplus of £7 million as at 1st July 2020, an improvement from a £1 million deficit as at 1st July 2019.

Capital expenditure

Capital expenditure was £148 million in the half, 1.8 times depreciation and amortisation (excluding amortisation of acquired intangibles), with some modest impact from delays to projects due to COVID-19. In the period, projects included:

- Commercialisation of eLNO in Battery Materials. We are now around one third of the way through construction of our first commercial plant, with commissioning to commence in 2022 and commercial production in 2024
- Completion of our new Clean Air manufacturing plants in Poland and China. This additional capacity will support demand from tightening legislation and will enable us to create efficiency by consolidating our manufacturing footprint
- Investment in the efficiency and resilience of our refineries within Efficient Natural Resources
- Upgrade to our core IT business systems

Capital expenditure for 2020/21 is expected to be up to £400 million as we continue to invest in our strategic growth projects above.

Depreciation and amortisation (excluding amortisation of acquired intangibles) is expected to increase to c.£200 million in 2020/21. This increase is largely due to the depreciation of our new Clean Air plants and our investment to upgrade our core IT business systems.

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Strong balance sheet and significant progress on working capital

We maintained a strong balance sheet and good access to liquidity with c.£1.8 billion of available cash and undrawn committed facilities at 30th September 2020. Net debt at 30th September 2020 was c.£0.9 billion (31st March 2020: £1.1 billion) and our leverage ratio (net debt to EBITDA) was 1.6 times (31st March 2020: 1.6 times). This was at the bottom end of our target range of 1.5 to 2.0 times, despite the impact of COVID-19 on EBITDA and higher working capital from increasing activity in Clean Air.

We benefited from a c.£400 million[1] reduction in precious metal working capital volumes in the period which reflects strong progress in reducing our refinery backlogs due to structural improvements to optimise precious metal working capital across our businesses. With the impact of COVID-19, we saw a one-off benefit of c.£200 million in the period, of which c.£100 million is likely to unwind in the second half. These reductions were partly offset by other working capital movements including increasing activity in Clean Air and higher pgm prices.

Notes:
1. Based on 31st March 2020 prices.

Free cash flow and working capital

Free cash flow was an inflow of £256 million, an improvement from an outflow in the prior period. This was primarily due to a reduction in precious metal working capital volumes as we reduced our refinery backlogs.

Excluding precious metal, working capital days at 30th September 2020 decreased to 54 days compared to 61 days at 30th September 2019. Average working capital days through the period excluding precious metals increased to 70 days driven by the lower average sales volume through the period.

We continue to have a disciplined approach to our working capital position. We are targeting an improvement in average non precious metal working capital to between 50 and 60 days over the medium term.

Dividend

The board approved an interim dividend of 20.0 pence per share (1H 2019/20: 24.5 pence per share). The interim dividend will be paid to shareholders on 4th February 2021, with an ex dividend date of 26th November 2020.

Return on invested capital (ROIC)

ROIC declined to 10.4% at 30th September 2020, from 15.0% in the prior period mainly reflecting lower operating profit due to the impact of the pandemic.

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.

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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.

On a separate matter, the group is involved in investigating environmental contamination at a site 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, when it sold its interest in the site. A site investigation is nearing completion, 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 £1.5 million have been provided for as at 30th September 2020.

UK's withdrawal from European Union

We are continuing to monitor and assess the potential impact of the UK's withdrawal from the European Union on current operations and strategy. Plans are well developed and being implemented for the key scenarios.

Business continuity and regulatory compliance are particular areas of focus. Our businesses are ensuring stock is available and the associated working capital impacts are carefully managed such that any logistics delays do not impact business continuity.

In terms of Registration, Evaluation, Authorisation and restriction of Chemicals (REACH), we will establish an 'Only Representative' through a Johnson Matthey EU legal entity. This will allow a seamless crossover and continued trade in the European Union of Johnson Matthey products, after the transition period deadline has passed. In addition, we will also take the appropriate actions to ensure our products and incoming raw materials are compliant with the UK's equivalent of REACH from 1st January 2021.

We are confident that the acute demands of managing the COVID-19 response will not reduce our ability to respond to changes caused by the withdrawal.

Going concern

The group has a strong balance sheet with c.£1.8 billion of available cash and undrawn committed facilities at 30th September 2020. Cash generation was strong in the first half with free cash flow of £256 million leaving net debt £216 million lower than year end. There was strong operational performance behind this, including reducing refining backlogs by c.£400 million in the period, which places the group in a strong position going forward. Despite the lower EBITDA from the effects of COVID-19, leverage, measured by net debt (including post tax pension deficits) to EBITDA, was at the bottom of our target range at 1.6 times.

Overall, our performance in the first half was better than the projections in the deep recession case scenario used at year-end, both in terms of operating profit and cash flow. COVID-19 nonetheless continues to leave great uncertainty in the market outlook and in response to this we have revisited our projections using, for the purposes of assessing going concern, latest forecasts and the deep recession and very deep recession scenarios as described on page 65 of the Annual Report for the year ended 31st March 2020.

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Our base case scenario for the going concern assessment has been updated with our latest forecast for the remainder of 2020/21. This shows improved business performance. In Clean Air, the global outlook for autos has improved, with external data now suggesting European and US automotive production could be down c.20% in our fiscal year, compared with the previous estimate in the deep recession scenario of down c.25%, with China above the prior year. In heavy duty, external data suggests European and US production could be down c.30% with the Chinese market above the prior year. In Efficient Natural Resources, Catalyst Technologies is likely to be below the prior year due to weaker demand whilst PGM Services is expected to be above the prior year, benefiting from higher average precious metal prices. The delivery of Health's full year operating performance is expected to be above the level of the prior year. Thereafter we have kept the deep recession scenario outcomes for 2021/22. Due to the improved business performance now assumed in 2020/21 the growth rate in 2021/22 is broadly flat.

For our severe but plausible downside case, we have used an outlook in line with the deep recession scenario for the remainder of 2020/21 and the very deep recession scenario for 2021/22. The very deep recession showed a slower recovery in 2021/22 with Clean Air relatively stable to our deep recession scenario but a greater impact on our Efficient Natural Resources businesses where a higher proportion of costs are fixed. The severe but plausible downside case reflects year-on-year decline to 2021/22.

In addition to these two key scenarios and given the ongoing uncertainty we have stress tested the short-term performance against a second shutdown in the second half in line with our experience early in the first half. Whilst this would reduce profitability and EBITDA against our latest forecast, our balance sheet remains strong.

Under all of these scenarios we have sufficient headroom under committed facilities and against key financial covenants.

Funding and available liquidity

The group has a robust funding position comprising a range of long-term debt and a £1 billion five year committed revolving credit facility signed in March this year which was entirely undrawn at 30th September 2020. The maturity profile at 30th September 2020 is excellent with only £130 million of term debt maturing before December 2021. In the period we signed €90 million of seven year and €45 million of five year loans with the European Bank for Reconstruction and Development and KfW IPEX – Bank GmbH (KfW) respectively to support our Battery Materials investment in Poland.

In addition, as a long time, highly rated issuer in the US private placement market, JM expects to be able to access additional funding in its existing markets should it need to. The group also has a number of additional sources of funding available including uncommitted lease facilities that can provide precious metal funding. Furthermore, JM still has access to the Bank of England's COVID Corporate Financing Facility (CCFF) which would provide additional back-stop liquidity if needed. Whilst we would fully expect to be able to utilise the metal lease facilities and CCFF they are excluded from our going concern modelling.

Conclusion

The group has a robust funding position and has tested its performance again under a range of scenarios. In all of these cases, we have sufficient headroom against committed facilities and key financial covenants in the going concern period (12 months following the date of this announcement). There remain risks to the group including more extreme economic outcomes. Against these the group still has a range of levers which it could utilise to protect headroom including delaying inventory builds, reducing capital expenditure and reducing future dividend distributions.

The directors are therefore of the opinion that the group has adequate resources to fund its operations for the period of 12 months following the date of this announcement and so determine that it is appropriate to prepare the accounts on a going concern basis.

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Risks and uncertainties

We have made several improvements to our approach to understanding risk and uncertainty, further articulating the risk information and insights we use to support various business decisions. The principal risks and uncertainties, together with the group's strategies to manage them, are set out on pages 67 to 74 of the 2020 annual report and these are unchanged. They are:

Existing market outlook – the risk of the impact of changing assumptions in our key markets being either unplanned or unforeseen and not being agile enough to respond to them. This risk includes potential impact of legislative changes (e.g. those caused by Brexit), other market movements outside of our predictions, the extended impact of global pandemics such as COVID-19 and emerging trends such as the imposition of tariffs as well as regional and global slowdowns to which our business may be sensitive

Future growth – this risk considers the potential failure to deliver planned growth and value creation through ineffective execution of strategic initiatives and investments

Competitive advantage – addressing the need to maintain competitive advantage in existing markets and as a result not meeting customers' evolving needs as effectively and profitably as our competitors

Environment, health and safety (EHS) – as per similar high hazard manufacturing companies, our business operations are subject to a wide range of challenging health, safety and environmental laws, standards and regulations from government and non-governmental bodies around the world. If we fail to operate safely, we could injure our people or breach applicable laws which could adversely impact our employees. This could result in lost production time and potentially attract negative interest from the media and regulator

Supply failure – the nature of JM's operations means there are limited suppliers from which to source certain strategic raw materials including precious metals. Any significant breakdown in the supply of these materials would lead to an inability to manufacture and satisfy customer demand

People – to successfully execute our strategy and deliver growth we need to ensure that we have an appropriate culture, the breadth and depth of leadership and capabilities to drive a motivated, inclusive and engaged workforce, underpinned by adequate people data

Security of metal and highly regulated substances – the group has significant quantities of high value precious metals or highly regulated substances on site and in transit. Loss or theft due to a failure of the security management systems associated with the protection of metal or highly regulated substances may result in financial loss and/or a failure to satisfy our customers which could reduce our customers' confidence in JM and potential legal action

Intellectual property management – failure to adequately manage our own, and third party intellectual property, knowledge and information could lead to a loss in business advantage, loss of freedom to operate and reputational damage associated with litigation

Failure of operations – we may experience planned and unplanned interruptions and/or delays in the manufacturing and supply of our products resulting in lost sales affecting our reputation and revenue growth

Ethics, compliance and legal – failure to comply with ethical and regulatory compliance standards leading to reputational damage and possible criminal/legal exposure for the company or for individuals. We have recently refreshed our legal risk analysis and broadened the principal risk with aspects related to contractual liability risk which addresses JM's potential exposure to suffering significant loss or damage as a result of entering into contracts with unfavourable terms

Business transition – failure to manage and deliver change in a controlled manner to achieve expected business benefits

Product quality – our products are used in a wide range of applications, processes and systems. The quality of these products is crucial to ensuring they function as intended and meet the established quality criteria. Should a product fail to perform as expected or have quality defects, we could cause harm to consumers or expose ourselves to liability claims. This could lead to loss of future business, reputational damage and loss of licence to operate

Applications, systems and cyber – risks that our applications and systems security is inadequate or fails to adapt to changing business requirements and/or external threats. The impact of these may adversely affect our financial position and could harm our reputation

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Responsibility statement of the Directors in respect of the half yearly report

The half yearly report is the responsibility of the directors. Each of the directors as at the date of this responsibility statement, whose names and functions are set out below, confirms that to the best of their knowledge:

- the condensed consolidated accounts have been prepared in accordance with International Accounting Standard (IAS) 34 – 'Interim Financial Reporting'; and
- the interim management report included in the Half-Yearly Report includes a fair review of the information required by:
  a) DTR 4.2.7R of the Financial Conduct Authority's Disclosure Guidance and Transparency Rules, being an indication of important events that have occurred during the first six months of the financial year and their impact on the condensed consolidated accounts; and a description of the principal risks and uncertainties for the remaining six months of the financial year; and
  b) DTR 4.2.8R of the Financial Conduct Authority's Disclosure Guidance and Transparency Rules, being related party transactions that have taken place in the first six months of the current financial year and that have materially affected the financial position or performance of the company during that period; and any changes in the related party transactions described in the last annual report that could do so.

The names and functions of the directors of Johnson Matthey Plc are as follows:

Patrick Thomas	Chair of the Board and of the Nomination Committee
Jane Griffiths	Non-Executive Director
Xiaozhi Liu	Non-Executive Director
Robert MacLeod	Chief Executive
Anna Manz	Chief Financial Officer
Chris Mottershead	Non-Executive Director and Chair of the Remuneration Committee
John O'Higgins	Senior Independent Director
Doug Webb	Non-Executive Director and Chair of the Audit Committee

The responsibility statement was approved by the Board of Directors on 18th November 2020 and is signed on its behalf by:

Patrick Thomas

Chairman

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Independent Review Report

to Johnson Matthey Plc

Report on the condensed consolidated accounts

Our conclusion

We have reviewed Johnson Matthey Plc's condensed consolidated accounts (the "interim financial statements") in the half year results of Johnson Matthey Plc for the 6 month period ended 30 September 2020. Based on our review, nothing has come to our attention that causes us to believe that the interim financial statements are not prepared, in all material respects, in accordance with International Accounting Standard 34, 'Interim Financial Reporting', as adopted by the European Union and the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

What we have reviewed

The interim financial statements comprise:

- the Condensed Consolidated Balance Sheet as at 30 September 2020;
- the Condensed Consolidated Income Statement and Condensed Consolidated Statement of Total Comprehensive Income for the period then ended;
- the Condensed Consolidated Cash Flow Statement for the period then ended;
- the Condensed Consolidated Statement of Changes in Equity for the period then ended; and
- the explanatory notes to the interim financial statements.

The interim financial statements included in the half year results have been prepared in accordance with International Accounting Standard 34, 'Interim Financial Reporting', as adopted by the European Union and the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

As disclosed in note 1 to the interim financial statements, the financial reporting framework that has been applied in the preparation of the full annual financial statements of the group is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union.

Responsibilities for the interim financial statements and the review

Our responsibilities and those of the directors

The half year results, including the interim financial statements, is the responsibility of, and has been approved by, the directors. The directors are responsible for preparing the half year results in accordance with the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

Our responsibility is to express a conclusion on the interim financial statements in the half year results based on our review. This report, including the conclusion, has been prepared for and only for the company for the purpose of complying with the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority and for no other purpose. We do not, in giving this conclusion, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

What a review of interim financial statements involves

We conducted our review in accordance with International Standard on Review Engagements (UK and Ireland) 2410, 'Review of Interim Financial Information Performed by the Independent Auditor of the Entity' issued by the Auditing Practices Board for use in the United Kingdom. A review of interim financial information consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures.

A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing (UK) and, consequently, does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

We have read the other information contained in the half year results and considered whether it contains any apparent misstatements or material inconsistencies with the information in the interim financial statements.

PricewaterhouseCoopers LLP
Chartered Accountants
London
18 November 2020

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Condensed Consolidated Income Statement
for the six months ended 30 September 2020

	Notes	Six months ended 30.9.20 £ million	30.9.19 £ million
Revenue	2, 3	**6,979**	6,818
Cost of sales		**(6,587)**	(6,321)
Gross profit		**392**	497
Distribution costs		**(54)**	(66)
Administrative expenses		**(187)**	(166)
Amortisation of acquired intangibles	4	**(5)**	(6)
Major impairment and restructuring charges	4	**(78)**	-
Operating profit		**68**	259
Finance costs		**(77)**	(66)
Finance income		**36**	30
Share of profit/(loss) of joint venture and associate		**(1)**	2
Profit before tax		**26**	225
Tax expense	5	**(2)**	(49)
Profit for the period		**24**	176
		pence	pence
Earnings per ordinary share			
Basic	6	**12.3**	91.8
Diluted	6	**12.3**	91.6

Condensed Consolidated Statement of Total Comprehensive Income
for the six months ended 30 September 2020

	Notes	Six months ended 30.9.20 £ million	30.9.19 £ million
Profit for the period		**24**	176
Other comprehensive income			
Items that will not be reclassified to the income statement			
Remeasurements of post-employment benefit assets and liabilities	11	**(103)**	-
Fair value gains on equity investments at fair value through other comprehensive income		**6**	3
Tax on items that will not be reclassified to the income statement		**21**	1
		(76)	4
Items that may be reclassified to the income statement			
Exchange differences on translation of foreign operations		**(11)**	73
Amounts charged to hedging reserve		**(6)**	(16)
Fair value losses on net investment hedges		**-**	(8)
Tax on items that may be reclassified to the income statement		**1**	1
		(16)	50
Other comprehensive (expense)/income for the period		**(92)**	54
Total comprehensive (expense)/income for the period		**(68)**	230

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Condensed Consolidated Balance Sheet

as at 30 September 2020

	Notes	30.9.20 £ million	31.3.20 £ million
Assets			
Non-current assets			
Property, plant and equipment	8	**1,429**	1,403
Right-of-use assets		**81**	88
Goodwill		**572**	580
Other intangible assets	9	**404**	396
Investments in joint venture and associate		**22**	23
Investments at fair value through other comprehensive income		**56**	49
Other receivables		**60**	63
Interest rate swaps	16	**31**	34
Deferred tax assets		**91**	66
Post-employment benefit net assets	11	**229**	317
Total non-current assets		**2,975**	3,019
Current assets			
Inventories		**2,074**	1,902
Current tax assets		**39**	31
Trade and other receivables		**2,415**	2,077
Cash and cash equivalents – cash and deposits	16	**197**	112
Cash and cash equivalents – money market funds	16	**573**	192
Other financial assets		**35**	28
Assets classified as held for sale	10	**46**	-
Total current assets		**5,379**	4,342
Total assets		**8,354**	7,361
Liabilities			
Current liabilities			
Trade and other payables		**(3,575)**	(2,745)
Lease liabilities	16	**(11)**	(12)
Current tax liabilities		**(120)**	(106)
Cash and cash equivalents – bank overdrafts	16	**(32)**	(31)
Borrowings and related swaps	16	**(371)**	(331)
Other financial liabilities		**(25)**	(50)
Provisions		**(49)**	(11)
Liabilities classified as held for sale	10	**(7)**	-
Total current liabilities		**(4,190)**	(3,286)
Non-current liabilities			
Borrowings and related swaps	16	**(1,220)**	(994)
Lease liabilities	16	**(58)**	(64)
Deferred tax liabilities		**(52)**	(74)
Employee benefit obligations	11	**(110)**	(104)
Provisions		**(20)**	(9)
Other payables		**(3)**	(6)
Total non-current liabilities		**(1,463)**	(1,251)
Total liabilities		**(5,653)**	(4,537)
Net assets		**2,701**	2,824
Equity			
Share capital		**221**	221
Share premium		**148**	148
Shares held in employee share ownership trust (ESOT)		**(29)**	(32)
Other reserves		**132**	142
Retained earnings		**2,229**	2,345
Total equity		**2,701**	2,824

Note: £0.2 billion increase in precious metal inventories on higher volumes and metal price increases; £0.3 billion increase in trade and other receivables, of which £0.1 billion relates to an increase in amounts receivable under precious metal sale and repurchase agreements; £0.8 billion increase in trade and other payables relates to an increase in amounts payable under precious metal sale and repurchase agreements. Amounts payable under precious metal sale and repurchase agreements will unwind in line with metal demand across the group. As business activity and demand for metal increases, these agreements will be repaid to the extent metal is required within the business. Alternatively, they will be renewed on expiry for metal we continue to lend into the market.

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Condensed Consolidated Cash Flow Statement

for the six months ended 30 September 2020

	Notes	Six months ended 30.9.20 £ million	30.9.19 £ million
Cash flows from operating activities			
Profit before tax		**26**	225
Adjustments for:			
Share of loss/(profit) of joint venture and associate		**1**	(2)
Depreciation		**76**	77
Amortisation		**13**	14
Impairment losses		**16**	8
Loss on sale of non-current assets		**1**	-
Share-based payments		**5**	3
Increase in inventories		**(177)**	(134)
Increase in receivables		**(347)**	(403)
Increase in payables		**840**	70
Increase/(decrease) in provisions		**49**	(5)
Contributions in excess of employee benefit obligations charge		**(5)**	(13)
Changes in fair value of financial instruments		**(37)**	(3)
Net finance costs		**41**	36
Income tax paid		**(20)**	(32)
Net cash inflow/(outflow) from operating activities		**482**	(159)
Cash flows from investing activities			
Interest received		**33**	28
Purchases of property, plant and equipment		**(139)**	(133)
Purchases of intangible assets		**(36)**	(51)
Proceeds from sale of non-current assets		**-**	8
Net cash outflow from investing activities		**(142)**	(148)
Cash flows from financing activities			
Proceeds from borrowings		**288**	168
Repayment of borrowings		**(4)**	(11)
Dividends paid to equity shareholders	7	**(60)**	(120)
Interest paid		**(77)**	(70)
Principal element of lease payments		**(7)**	(5)
Net cash inflow/(outflow) from financing activities		**140**	(38)
Net increase/(decrease) in cash and cash equivalents		**480**	(345)
Exchange differences on cash and cash equivalents		**(1)**	1
Cash and cash equivalents at beginning of year		**273**	378
Cash and cash equivalents at end of period		**752**	34
Cash and deposits		**197**	99
Money market funds		**573**	-
Bank overdrafts		**(32)**	(65)
Cash and deposits transferred to assets classified as held for sale		**14**	-
Cash and cash equivalents	16	**752**	34

Condensed Consolidated Statement of Changes in Equity
for the six months ended 30 September 2020

	Share capital £ million	Share premium account £ million	Shares held in ESOT £ million	Other reserves £ million	Retained earnings £ million	Total equity £ million
At 1 April 2019	221	148	(45)	87	2,205	2,616
Total comprehensive income for the period	-	-	-	53	177	230
Dividends paid (note 7)	-	-	-	-	(120)	(120)
Share-based payments	-	-	-	-	6	6
Cost of shares transferred to employees	-	-	13	-	(16)	(3)
At 30 September 2019	221	148	(32)	140	2,252	2,729
Total comprehensive income for the period	-	-	-	2	144	146
Dividends paid (note 7)	-	-	-	-	(47)	(47)
Share-based payments	-	-	-	-	(1)	(1)
Cost of shares transferred to employees	-	-	-	-	(3)	(3)
At 31 March 2020	221	148	(32)	142	2,345	2,824
Total comprehensive expense for the period	-	-	-	(10)	(58)	(68)
Dividends paid (note 7)	-	-	-	-	(60)	(60)
Share-based payments	-	-	-	-	9	9
Cost of shares transferred to employees	-	-	3	-	(7)	(4)
At 30 September 2020	**221**	**148**	**(29)**	**132**	**2,229**	**2,701**

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Notes to the Accounts
for the six months ended 30 September 2020

1 Basis of preparation and statement of compliance

These condensed consolidated accounts do not constitute statutory accounts within the meaning of Section 435 of the Companies Act 2006 and should be read in conjunction with the Annual Report 2020. The half-yearly accounts have been prepared in accordance with International Accounting Standard (IAS) 34 'Interim Financial Reporting' and the Disclosure Guidance and Transparency Rules of the UK's Financial Conduct Authority. The accounting policies applied are consistent with the accounting policies applied by the group in its consolidated accounts as at, and for the year ended, 31 March 2020, with the exception of the adoption of amended accounting policies and standards as explained below.

Information in respect of the year ended 31 March 2020 is derived from the company's statutory accounts for that year which have been delivered to the Registrar of Companies. The auditor's report on those statutory accounts was unqualified, did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying its report and did not contain any statement under Section 498 (2) or Section 498 (3) of the Companies Act 2006.

The half-yearly accounts are unaudited, but have been reviewed by the auditors. They were approved by the board of directors on 18 November 2020.

Going concern
The accounts are prepared on a going concern basis in accordance with International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) and interpretations issued by the IFRS Interpretations Committee or the Standing Interpretations Committee (SIC) as adopted by the European Union (EU) and the Companies Act 2006 applicable to companies reporting under IFRS.

The COVID-19 pandemic has impacted many countries in which the group operates and created a challenging macro-economic environment. The business remains resilient with performance exceeding the deep recession scenario modelled at year end. Some of our sites re-opened following the implementation of additional safety measures and continue to operate to serve our customer demand.

However, given the fast-changing nature of the COVID-19 situation in which we are operating, our near-term visibility remains limited. In response to this we have undertaken further extensive reviews of our businesses and projections using latest forecasts and the deep recession and very deep recession scenarios described in our results for the year ended 31 March 2020, refer to page 65 of the group's 31 March 2020 Annual Report.

During the year ended 31 March 2020, the deep recession scenario was considered to be our base case scenario. Overall, our performance in the period to 30 September 2020 was better than these projections, both in terms of operating profit and cash flow.

Our base case scenario for the going concern assessment has been updated with our latest forecast for the remainder of the financial year. This shows improved business performance. Thereafter we have kept the deep recession scenario outcomes for the remaining going concern period. Due to the improved business performance now assumed to 31 March 2021 the growth rate to next year is broadly flat.

For our severe but plausible downside case, we have used an outlook in line with the deep recession scenario for the remainder of the financial year and the very deep recession scenario for the remaining going concern period which reflects slower recovery. The severe but plausible downside case reflects year-on-year decline.

In addition to these two key scenarios, we have further stress tested the short term performance to incorporate another global shutdown this year with similar disruptions to our customer base and production facilities as experienced during the first quarter of this year. The directors consider this to be an extreme scenario given we continue to operate and serve our customer demands under current governmental restrictions.

In all scenarios, we have sufficient headroom against committed facilities and key financial covenants are not in breach during the going concern period.

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The group has a strong balance sheet with £1.8 billion of available cash and undrawn committed facilities as at 30 September 2020. In addition, as a long time, highly rated issuer in the US private placement market, the group expects to be able to access additional funding in its existing markets should it need to. The group also has a number of additional sources of funding available including uncommitted lease facilities that can provide precious metal funding. Furthermore, the group still has access to the Bank of England's COVID Corporate Financing Facility (CCFF) which would provide additional back-stop liquidity if needed. Whilst we would fully expect to be able to utilise the metal lease facilities and CCFF they are excluded from our going concern modelling on the basis that they are short term in nature.

The directors are therefore of the opinion that the group has adequate resources to fund its operations for the period of 12 months following the date of this announcement and so determine that it is appropriate to prepare the accounts on a going concern basis.

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.

Amended standards adopted by the group

The following amendments to existing standards were applicable to the group from 1 April 2020, but did not have a significant effect on its 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.

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Notes to the Accounts
for the six months ended 30 September 2020

2 Segmental information

Revenue, sales and underlying operating profit by sector

Excluding Corporate costs, the group has four reporting segments, aligned to the needs of our customers and the global challenges we are tackling.

Clean Air – provides catalysts for emission control after-treatment systems to remove harmful emissions from vehicles. Catalysts are provided for light duty vehicles powered by diesel and gasoline, heavy duty diesel trucks, buses and non-road equipment.

Efficient Natural Resources – provides products and processing services for the efficient use and transformation of critical natural resources including oil, gas, biomass and platinum group metals.

Health – develops and manufactures active pharmaceutical ingredients (APIs) for a variety of treatments and new drugs during their lifecycle, including for initial clinical evaluation and subsequently for commercial supply post regulatory approval.

New Markets – assesses new areas of potential growth aligned to global priorities of cleaner air, improved health and more efficient use of natural resources. This includes battery systems for a range of applications, fuel cell technologies and battery materials for automotive applications. The sector also develops products found in devices used in medical procedures and advanced catalysts for pharmaceutical and agricultural chemicals markets.

The analysis of sectors (business segments) is presented in accordance with IFRS 8 Operating Segments, on the basis of those segments whose operating results are regularly reviewed by the group chief executive who acts as the Chief Operating Decision Maker as defined by IFRS 8.

Six months ended 30 September 2020

	Clean Air £ million	**Efficient Natural Resources £ million**	**Health £ million**	**New Markets £ million**	**Corporate £ million**	**Eliminations £ million**	**Total £ million**
Revenue from external customers	**2,888**	**3,723**	**122**	**246**	**-**	**-**	**6,979**
Inter-segment revenue	**2**	**1,948**	**-**	**29**	**-**	**(1,979)**	**-**
Revenue	**2,890**	**5,671**	**122**	**275**	**-**	**(1,979)**	**6,979**
External sales[1]	**1,002**	**390**	**119**	**168**	**-**	**-**	**1,679**
Inter-segment sales	**1**	**56**	**-**	**-**	**-**	**(57)**	**-**
Sales[1]	**1,003**	**446**	**119**	**168**	**-**	**(57)**	**1,679**
Underlying operating profit[1]	**77**	**81**	**15**	**5**	**(27)**	**-**	**151**

Six months ended 30 September 2019

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Eliminations £ million	Total £ million
Revenue from external customers	2,937	3,530	114	237	-	-	6,818
Inter-segment revenue	-	1,822	-	2	-	(1,824)	-
Revenue	2,937	5,352	114	239	-	(1,824)	6,818
External sales[1]	1,392	437	111	184	-	-	2,124
Inter-segment sales	-	59	-	2	-	(61)	-
Sales[1]	1,392	496	111	186	-	(61)	2,124
Underlying operating profit[1]	179	94	18	(8)	(18)	-	265

[1] Sales and underlying operating profit are non-GAAP measures (see note 16 for reconciliation to GAAP measures). 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.

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2 Segmental information (continued)

Net assets by sector

At 30 September 2020

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Total £ million
Segmental net assets	**1,742**	**526**	**495**	**281**	**427**	**3,471**
Net debt (see note 16)						**(878)**
Post-employment benefit net assets and liabilities						**119**
Deferred income tax net assets						**39**
Provisions and non-current other payables						**(72)**
Investments in joint venture and associate						**22**
Net assets						**2,701**

At 31 March 2020

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Corporate £ million	Total £ million
Segmental net assets	1,361	1,267	520	236	332	3,716
Net debt (see note 16)						(1,094)
Post-employment benefit net assets and liabilities						213
Deferred income tax net liabilities						(8)
Provisions and non-current other payables						(26)
Investments in joint venture and associate						23
Net assets						2,824

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	Six months ended 30.9.20	Six months ended 30.9.19
US dollar / £	**1.27**	1.26
Euro / £	**1.12**	1.13
Chinese renminbi / £	**8.86**	8.70

	Six months ended 30.9.20 £ million	Six months ended 30.9.19 At last year's rates £ million	Six months ended 30.9.19 At this year's rates £ million	Change at this year's rates %
Clean Air	**1,003**	1,392	1,375	-27%
Efficient Natural Resources	**446**	496	493	-10%
Health	**119**	111	111	8%
New Markets	**168**	186	182	-8%
Elimination of inter-segment sales	**(57)**	(61)	(61)	
Sales[1]	**1,679**	2,124	2,100	-20%
Clean Air	**77**	179	177	-56%
Efficient Natural Resources	**81**	94	93	-12%
Health	**15**	18	18	-21%
New Markets	**5**	(8)	(8)	n/a
Unallocated corporate expenses	**(27)**	(18)	(18)	
Underlying operating profit[1]	**151**	265	262	-42%

[1] Sales and underlying operating profit are non-GAAP measures (see note 16 for reconciliation to GAAP measures). 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.

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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 costs incurred
		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

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

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Notes to the Accounts
for the six months ended 30 September 2020

3 Revenue (continued)

Revenue from external customers by principal products and services

Six months ended 30 September 2020

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Total £ million
Metal	**1,885**	**3,333**	**3**	**78**	**5,299**
Heavy Duty Catalysts	**310**	**-**	**-**	**-**	**310**
Light Duty Catalysts	**680**	**-**	**-**	**-**	**680**
Catalyst Technologies	**-**	**194**	**-**	**-**	**194**
Platinum Group Metal Services	**-**	**148**	**-**	**-**	**148**
Advanced Glass Technologies	**-**	**27**	**-**	**-**	**27**
Diagnostic Services	**-**	**21**	**-**	**-**	**21**
Generics	**-**	**-**	**70**	**-**	**70**
Innovators	**-**	**-**	**49**	**-**	**49**
Alternative Powertrain	**-**	**-**	**-**	**101**	**101**
Medical Device Components	**-**	**-**	**-**	**29**	**29**
Life Science Technologies	**-**	**-**	**-**	**25**	**25**
Other	**13**	**-**	**-**	**13**	**26**
Revenue	**2,888**	**3,723**	**122**	**246**	**6,979**

Six months ended 30 September 2019

	Clean Air £ million	Efficient Natural Resources £ million	Health £ million	New Markets £ million	Total £ million
Metal	1,545	3,093	3	53	4,694
Heavy Duty Catalysts	464	-	-	-	464
Light Duty Catalysts	904	-	-	-	904
Catalyst Technologies	-	249	-	-	249
Platinum Group Metal Services	-	117	-	-	117
Advanced Glass Technologies	-	36	-	-	36
Diagnostic Services	-	35	-	-	35
Generics	-	-	67	-	67
Innovators	-	-	44	-	44
Alternative Powertrain	-	-	-	110	110
Medical Device Components	-	-	-	37	37
Life Science Technologies	-	-	-	22	22
Other	24	-	-	15	39
Revenue	2,937	3,530	114	237	6,818

The contract receivables balance at 30 September 2020 is £134 million (1H 2019/20: £68 million).

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4 Operating profit

		Six months ended 30.9.20 £ million	30.9.19 £ million
Operating profit is arrived at after charging / (crediting):			
Total research and development expenditure		**96**	100
Less: Development expenditure capitalised		**(9)**	(12)
Research and development expenditure charged to the income statement		**87**	88
Less: External funding received from governments		**(5)**	(6)
Net research and development expenditure charged to the income statement		**82**	82
Past pension service credit		**-**	(10)
Depreciation of property, plant and equipment		**69**	71
Depreciation of right-of-use assets		**7**	6
Depreciation		**76**	77
Amortisation of internally generated intangible assets		**2**	2
Amortisation of acquired intangibles		**5**	6
Amortisation of other intangible assets		**6**	6
Amortisation		**13**	14
	Property, plant and equipment	**12**	-
	Right-of-use assets	**1**	-
	Other intangible assets	**4**	-
	Inventories	**1**	-
	Trade and other receivables	**1**	-
	Trade and other payables	**(3)**	-
Impairment charges		**16**	-
Restructuring charges		**62**	-
Major impairment and restructuring charges		**78**	-

Major impairment and restructuring charges

We are transforming the group to create a more simple, agile and efficient organisation. Through the structural changes we have made to all aspects of how we run our business, we are driving further efficiency across our operations. In June 2020, the group announced efficiency workstreams to optimise our operating model and consolidate our footprint, this targets £80m in annualised cost savings, which combined with the global procurement initiatives will deliver a total of £225m in annualised savings by 31 March 2023. Both efficiency workstreams are progressing as planned, as such, the group has recognised £78 million (1H 2019/20: £nil) in major impairment and restructuring charges during the period ended 30 September 2020:

- **Clean Air manufacturing plants,** We are progressively rebalancing production into our key plants in North Macedonia, and new facilities in Poland and China to create a simplified and agile structure. The Clean Air restructuring charge was £34 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 £8 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 will be closed by February 2021 and results in a £7 million impairment charge. A further charge of £4 million for site closure and redundancy costs was recognised.

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4 Operating profit (continued)

- **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.

- **Battery Materials LFP business,** In the prior year, the Battery Materials lithium iron phosphate (LFP) business was impaired to £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 period, the decision to close the LFP site was announced and a restructuring charge of £6 million for site closure costs was recognised.

- **New Markets businesses,** Our drive for efficiency and disciplined capital allocation enhances returns, and we continue to actively manage our portfolio. We are divesting our activities in Water and Atmosphere Control Technologies which is not core in our growth strategy, this results in a £4 million impairment charge, of which all is allocated to Water. Other restructuring activities within New Markets results in a restructuring charge of £1 million related to redundancy costs.

- **Other restructuring,** The group function is reviewing the existing corporate functional organisation structures, cost base and efficiency opportunities. Thereafter, and in collaboration with the sectors, we target an operating model that will deliver benefits in the medium to long-term by eliminating duplication and reducing complexity. In the period to 30 September 2020, £3 million had been charged for restructuring costs.

5 Tax expense

The charge for taxation is after a tax credit of £14 million (1H 2019/20: £nil) relating to major impairments and restructuring charges, and a tax credit of £1 million (1H 2019/20: £1m) relating to amortisation of acquired intangibles. On an underlying basis, the group incurred a tax expense for the half year of £17 million (1H 2019/20: £47 million) which equates to an underlying effective tax rate of 15.6% (1H 2019/20: 20.5%) representing the current best estimate of the average annual effective tax rate expected for the full year.

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6 Earnings per ordinary share

	Six months ended 30.9.20 pence	30.9.19 pence
Basic	**12.3**	91.8
Diluted	**12.3**	91.6

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	Six months ended 30.9.20	30.9.19
Basic	**192,650,843**	192,297,943
Dilution for long term incentive plans	**211,074**	410,076
Diluted	**192,861,917**	192,708,019

7 Dividends

An interim dividend of 20.0 pence (1H 2019/20 24.5 pence) per ordinary share has been proposed by the board which will be paid on 4 February 2021 to shareholders on the register at the close of business on 27 November 2020. The estimated amount to be paid is £39 million (1H 2019/20 £47 million) and has not been recognised in these accounts.

	Six months ended 30.9.20 £ million	30.9.19 £ million
2018/19 final ordinary dividend paid – 62.25 pence per share	**-**	120
2019/20 final ordinary dividend paid – 31.125 pence per share	**60**	-
Total dividends	**60**	120

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 1 April 2020	627	24	2,171	486	3,308
Additions	-	-	18	99	117
Transferred to assets classified as held for sale (note 10)	-	(1)	(6)	-	(7)
Reclassification between categories	2	1	37	(40)	-
Disposals	(3)	-	(6)	-	(9)
Exchange adjustments	(5)	(1)	(20)	1	(25)
At 30 September 2020	621	23	2,194	546	3,384
Accumulated depreciation and impairment					
At 1 April 2020	317	17	1,554	17	1,905
Charge for the period	10	1	58	-	69
Impairments	-	-	10	2	12
Transferred to assets classified as held for sale (note 10)	-	-	(3)	-	(3)
Disposals	(2)	-	(6)	-	(8)
Exchange adjustments	(4)	-	(16)	-	(20)
At 30 September 2020	321	18	1,597	19	1,955
Carrying amount at 30 September 2020	**300**	**5**	**597**	**527**	**1,429**
Carrying amount at 1 April 2020	310	7	617	469	1,403

During the half year ended 30 September 2020, the group recognised impairments in respect of the Efficient Natural Resources Catacel business (£3 million), a Health production unit (£5 million) and the New Markets water business (£4 million). The impairment charges have been included in major impairment and restructuring charges (see note 4).

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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 1 April 2020	146	321	64	50	218	799
Additions	-	22	-	-	9	31
Transferred to assets classified as held for sale (note 10)	(9)	-	-	(1)	-	(10)
Exchange adjustments	4	1	(1)	1	(4)	1
At 30 September 2020	141	344	63	50	223	821
Accumulated amortisation and impairment						
At 1 April 2020	113	71	40	39	140	403
Charge for the period	3	7	-	2	1	13
Impairments	-	-	4	-	-	4
Transferred to assets classified as held for sale (note 10)	(4)	-	-	-	-	(4)
Exchange adjustments	2	-	-	1	(2)	1
At 30 September 2020	114	78	44	42	139	417
Carrying amount at 30 September 2020	**27**	**266**	**19**	**8**	**84**	**404**
Carrying amount at 1 April 2020	33	250	24	11	78	396

During the half year ended 30 September 2020, the group recognised impairments in respect of the Efficient Natural Resources Catacel business (£4 million). The impairment charges have been included in major impairment and restructuring charges (see note 4).

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10 Assets and liabilities classified as held for sale

The group strategically drives for efficiency and disciplined capital allocation to enhance returns, as such we continue to actively manage our portfolio. In line with this strategy, during the half year the board decided to sell the New Markets' Water and Atmosphere Control Technologies businesses. Both businesses have been classified as separate disposal groups held for sale and presented separately on the balance sheet.

The sale of the Atmosphere Control Technologies business completed on 16 November 2020. The proceeds less costs to sell were equal to the book value of the net assets on disposal date and so no impairment loss has been recognised.

As at 30 September 2020, the proceeds less costs to sale for the Water business were estimated to be less than the book value of net assets and so an impairment of £4 million has been recognised. The sale of the Water business completed on 17 November 2020 with proceeds equal to the impaired value of the net assets on disposal date.

The major classes of assets or liabilities comprising the businesses classified as held for sale are:

At 30 September 2020	**Water** £ million	**Atmosphere Control Technologies** £ million	**Total** £ million
Non-current assets			
Property, plant and equipment	-	4	4
Right-of-use-assets	-	1	1
Goodwill	-	9	9
Other Intangible Assets	-	6	6
Current assets			
Inventories	1	5	6
Trade and other receivables	2	4	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 of disposal group	**2**	**37**	**39**

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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

		30.9.20			31.3.20	
	UK plan	**US plans**	**Other plans**	UK plan	US plans	Other plans
	%	**%**	**%**	%	%	%
First year's rate of increase in salaries	**-**	**-**	**2.15**	-	-	2.15
Ultimate rate of increase in salaries	**2.90**	**3.00**	**2.15**	2.60	3.00	2.15
Rate of increase in pensions in payment	**2.75**	**-**	**1.70**	2.50	-	1.70
Discount rate	**1.70**	**2.50**	**1.32**	2.30	3.00	1.87
Inflation		**2.20**	**1.60**		2.20	1.65
– UK Retail Prices Index (RPI)	**2.80**			2.50		
– UK Consumer Prices Index (CPI)	**2.15**			1.85		
Current medical benefits cost trend rate	**5.40**	**2.20**	**-**	5.40	2.20	-
Ultimate medical benefits cost trend rate	**5.40**	**2.20**	**-**	5.40	2.20	-

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 1 April 2020	306	3	(12)	(24)	(27)	(28)	218
Current service cost - in operating profit	(3)	(10)	-	(5)	-	(1)	(19)
Administrative expenses - in operating profit	(2)	-	-	-	-	-	(2)
Interest	3	-	-	-	(1)	-	2
Remeasurements	(87)	(9)	-	(6)	(1)	-	(103)
Company contributions	3	10	-	11	1	1	26
Exchange	-	-	-	1	1	-	2
At 30 September 2020	**220**	**(6)**	**(12)**	**(23)**	**(27)**	**(28)**	**124**

The decrease in UK net post-employment assets in the half year to 30 September 2020 is primarily driven by a change to the UK discount rate assumption.

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11 Post-employment benefits (continued)

Financial information (continued)

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

	30.9.20 Post-employment benefit net assets £ million	30.9.20 Employee benefit obligations £ million	31.3.20 Post-employment benefit net assets £ million	31.3.20 Employee benefit obligations £ million
UK pension - legacy section	**220**	**-**	306	-
UK pension - cash balance section	**-**	**(6)**	3	-
UK post-retirement medical benefits	**-**	**(12)**	-	(12)
US pensions	**-**	**(23)**	-	(24)
US post-retirement medical benefits	**8**	**(35)**	7	(34)
Other	**1**	**(29)**	1	(29)
Total post-employment plans	**229**	**(105)**	317	(99)
Other long-term employee benefits		**(5)**		(5)
Total long-term employee benefit obligations		**(110)**		(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 is measured at face value taking into account credit risk. There are no other significant risks affecting the fair value.

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 periods.

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12 Fair values (continued)

	30.9.20 £ million	31.3.20 £ million	Fair value hierarchy level
Financial instruments measured at fair value			
Non-current			
Investments at fair value through other comprehensive income	**56**	49	1
Interest rate swaps	**31**	34	2
Borrowings and related swaps	**(7)**	(6)	2
Current			
Trade receivables[1]	**486**	328	2
Other receivables[2]	**65**	72	2
Cash and cash equivalents - money market funds	**573**	192	2
Other financial assets[3]	**35**	28	2
Other financial liabilities[3]	**(25)**	(50)	2

	30.9.20 £ million	31.3.20 £ million	Fair value hierarchy level
Financial instruments not measured at fair value			
Non-current			
Borrowings and related swaps	**(1,213)**	(988)	
Lease liabilities	**(58)**	(64)	
Current			
Cash and cash equivalents - cash and deposits	**197**	112	
Cash and cash equivalents - bank overdrafts	**(32)**	(31)	
Other borrowings and related swaps	**(371)**	(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.

12 Fair values (continued)

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

	30.09.20 Carrying amount £ million	**30.09.20** Fair value £ million	31.03.20 Carrying amount £ million	31.03.20 Fair value £ million
US Dollar Bonds 2022, 2023, 2025, 2027, 2028 and 2030	**(711)**	**(700)**	(514)	(496)
Euro Bonds 2021, 2023, 2025, 2028 and 2030	**(294)**	**(276)**	(264)	(247)
Sterling Bonds 2024 and 2025	**(110)**	**(109)**	(110)	(108)
KfW US dollar loan 2024	**(39)**	**(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 period 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 30 September 2020, precious metal leases were £367 million at closing prices (31 March 2020: £451 million). Precious metal leases are not accounted for under IFRS 16 as they qualify as short term leases.

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.

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14 Contingent liabilities (continued)

On a separate matter, the group is involved in investigating environmental contamination at a site 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, when it sold its interest in the site. A site investigation is nearing completion, 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 £1.5 million have been provided for as at 30 September 2020.

15 Transactions with related parties

There have been no material changes in related party relationships in the six months ended 30 September 2020 and no related party transactions have taken place which have materially affected the financial position or performance of the group during that period.

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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 period 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 venture and associate 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.

[1] Key Performance Indicator

[2] Underlying 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.

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16 Non-GAAP measures (continued)

Reconciliations to GAAP measures

Sales
See note 2.

Underlying profit measures

Six months ended 30 September 2020	**Operating profit £ million**	**Profit before tax £ million**	**Tax expense £ million**	**Profit for the year £ million**
Underlying	**151**	**109**	**(17)**	**92**
Amortisation of acquired intangibles	**(5)**	**(5)**	**1**	**(4)**
Major impairment and restructuring charges[1]	**(78)**	**(78)**	**14**	**(64)**
Reported	**68**	**26**	**(2)**	**24**

[1] For further detail please see note 4.

Six months ended 30 September 2019	Operating profit £ million	Profit before tax £ million	Tax expense £ million	Profit for the year £ million
Underlying	265	231	(47)	184
Amortisation of acquired intangibles	(6)	(6)	1	(5)
Change in non-underlying tax provisions	-	-	(3)	(3)
Reported	259	225	(49)	176

Underlying earnings per share

	Six months ended 30.09.2020	Six months ended 30.09.2019
Underlying profit for the period (£ million)	**92**	184
Weighted average number of shares in issue (million)	**192.7**	192.3
Underlying earnings per share (pence)	**47.7**	95.8

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16 Non-GAAP measures (continued)

Return on Invested Capital (ROIC)

	Period ended 30.9.20 £ million	Year ended 31.3.20 £ million	Period ended 30.9.19 £ million
Annualised underlying operating profit	**425**	539	560
Average net debt	**1,504**	1,489	1,270
Average equity	**2,774**	2,733	2,679
Average capital employed	**4,278**	4,222	3,949
Less: Average pension net assets	**(258)**	(212)	(258)
Less: Average related deferred taxation	**44**	32	40
Average capital employed (excluding post tax pension net assets)	**4,064**	4,042	3,731
ROIC (excluding post tax pension net assets)	**10.4%**	13.3%	15.0%
ROIC	**9.9%**	12.8%	14.2%

Average working capital days (excluding precious metals)

	Six months ended 30.9.20 £ million	Year ended 31.3.20 £ million	Six months ended 30.9.19 £ million
Inventories	**2,074**	1,902	1,475
Trade and other receivables	**2,415**	2,077	1,953
Trade and other payables	**(3,575)**	(2,745)	(1,713)
	914	1,234	1,715
Working capital balances classified as held for sale	**6**	-	-
Total working capital	**920**	1,234	1,715
Less: Precious metal working capital	**(313)**	(597)	(959)
Working capital (excluding precious metals)	**607**	637	756
Average working capital days (excluding precious metals)	**70**	63	61

Free cash flow

	Six months ended 30.9.20 £ million	Six months ended 30.9.19 £ million
Net cash inflow/(outflow) from operating activities	**482**	(159)
Interest received	**33**	28
Interest paid	**(77)**	(70)
Purchases of property, plant and equipment	**(139)**	(133)
Purchases of intangible assets	**(36)**	(51)
Proceeds from sale of non-current assets	**-**	8
Principal element of lease payments	**(7)**	(5)
Free cash flow	**256**	(382)

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16 Non-GAAP measures (continued)

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

	30.9.20 £ million	31.3.20 £ million	30.9.19 £ million
Cash and deposits	**197**	112	99
Money market funds	**573**	192	-
Bank overdrafts	**(32)**	(31)	(65)
Cash and deposits transferred to assets classified as held for sale	**14**	-	-
Cash and cash equivalents	**752**	273	34
Other current borrowings and related swaps	**(371)**	(331)	(351)
Non-current borrowings and related swaps	**(1,220)**	(994)	(1,124)
Non-current interest rate swaps	**31**	34	30
Current lease liabilities	**(11)**	(12)	(12)
Non-current lease liabilities	**(58)**	(64)	(65)
Lease liabilities transferred to liabilities classified as held for sale	**(1)**	-	-
Net debt	**(878)**	(1,094)	(1,488)
Increase/(decrease) in cash and cash equivalents	**480**	(103)	(345)
Less: Increase in borrowings	**(284)**	(12)	(157)
Less: Principal element of lease payments	**7**	13	5
Decrease/(increase) in net debt resulting from cash flows	**203**	(102)	(497)
New leases, remeasurements and modifications	**(1)**	(13)	(4)
Lease disposals	**-**	1	-
Exchange differences on net debt	**19**	(47)	(47)
Other non-cash movements	**(5)**	10	3
Movement in net debt	**216**	(151)	(545)
Net debt at beginning of year	**(1,094)**	(866)	(866)
Impact of adoption of IFRS 16	**-**	(77)	(77)
Net debt at end of year	**(878)**	(1,094)	(1,488)
Net debt	**(878)**	(1,094)	(1,488)
Add: Pension deficits	**(58)**	(53)	(74)
Add: Related deferred tax	**11**	10	14
Net debt (including post tax pension deficits)	**(925)**	(1,137)	(1,548)
Underlying EBITDA for this period	**235**		350
Underlying EBITDA for prior year	**705**		723
Less: Underlying EBITDA for prior half year	**(350)**		(350)
Annualised underlying EBITDA	**590**	705	723
Net debt (including post tax pension deficits) to underlying EBITDA	**1.6**	1.6	2.1

Underlying EBITDA	**235**	705	350
Depreciation and amortisation	**(89)**	(179)	(91)
Major impairment and restructuring charges	**(78)**	(140)	-
Profit on disposal of businesses	**-**	2	-
Finance costs	**(77)**	(195)	(66)
Finance income	**36**	109	30
Share of profit/(loss) of joint venture and associate	**(1)**	3	2
Income tax expense	**(2)**	(50)	(49)
Profit for the period	**24**	255	176

Cash and cash equivalents includes £88 million (31 March 2020: £nil) of restricted amounts relating to cash held in South Africa. The cash has been restricted as a result of a change in company residency status. The group anticipates extracting and/or utilising this in the near term and is reviewing options.

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Financial Calendar

2020

26 November
Ex dividend date

27 November
Interim dividend record date

2021

4 February
Payment of interim dividend

27 May
Announcement of results for the year ending 31 March 2021

29 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.

Johnson Matthey Plc
Registered Office: 5th Floor, 25 Farringdon Street, London EC4A 4AB
Telephone: +44 (0) 20 7269 8400
Fax: +44 (0) 20 7269 8433
Internet address: www.matthey.com
E-mail: jmpr@matthey.com

Registered in England – Number 33774
LEI code: 2138001AVBSD1HSC6Z10

Registrars
Equiniti, Aspect House, Spencer Road, Lancing, West Sussex BN99 6DA
Telephone: 0371 384 2344 (in the UK) *
+44 (0) 121 415 7047 (outside the UK)
Internet address: www.shareview.co.uk

* Lines are open 8.30am to 5.30pm Monday to Friday excluding public holidays in England and Wales.

Issued by: Johnson Matthey Plc
5th Floor, 25 Farringdon Street, London EC4A 4AB